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UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

19 BRAINGUARD TECHNOLOGIES,
20 INC.,

Case No.: 8:24-cv-2652

21 Plaintiff,

22 v.
23 VISTA OUTDOOR INC.; VISTA
24 OUTDOOR OPERATIONS LLC;
REVELYST SALES LLC; and
STRATEGIC VALUE PARTNERS,
LLC,

**COMPLAINT FOR PATENT
INFRINGEMENT**

25 Defendants.

JURY TRIAL DEMANDED

1 Plaintiff BrainGuard Technologies, Inc. (“BrainGuard”) files this Complaint against
2 Defendants Vista Outdoor Inc., Vista Outdoor Operations LLC (collectively, “Vista”),
3 Revelyst Sales LLC (“Revelyst”), and Strategic Value Partners, LLC (“SVP”) (together,
4 “Defendants”).

5 **NATURE OF THE CASE**

6 1. This is an action for the infringement of five United States Patents: (1) United
7 States Patent No. 8,863,319 (“the ’319 Patent”), (2) United States Patent No. 9,060,561
8 (“the ’561 Patent”), (3) United States Patent No. 9,271,536 (“the ’536 Patent”), (4) United
9 States Patent No. 9,414,635 (“the ’635 Patent”), and (5) United States Patent No. 9,516,909
10 (“the ’909 Patent”), collectively referred to as the “Asserted Patents.”

11 2. Defendants have been infringing the Asserted Patents in violation of 35 U.S.C.
12 § 271 by making, using, offering to sell, selling, and/or importing its various lines of
13 cycling, motor sports, and snow sports safety equipment based on Multi-directional Impact
14 Protection System (MIPS) technology, including but not limited to at least the following
15 products: the Bell¹ Spherical line of cycling and motor sports helmets (the “Bell Spherical
16 Helmets”), the Bell MIPS Evolve line of cycling and motor sports helmets (the “Bell MIPS
17 Helmets”), the Giro² Spherical line of cycling and snow sports helmets (the “Giro Spherical
18 Helmets”), the Giro MIPS line of cycling and snow sports helmets (the “Giro MIPS
19 Helmets”), the Fox³ MIPS line of cycling and motor sports helmets (the “Fox MIPS
20 Helmets”), and similar products (collectively, the “Accused Instrumentalities”), and by
21 placing such products into the stream of commerce with the expectation that they will be
22 purchased and/or used by third party resellers and/or by end consumers in this District.

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24 ¹ “Bell” refers to Bell Helmets. *See, e.g.*, <https://www.revelyst.com/brands/bell.html> (last
25 visited November 26, 2024).

26 ² “Giro” refers to Giro Sport Design. *See, e.g.*, <https://www.revelyst.com/brands/giro.html>
27 (last visited November 26, 2024).

³ “Fox” refers to Fox Racing. *See, e.g.*, <https://www.revelyst.com/brands/fox-racing.html>
(last visited November 26, 2024).

1 3. On information and belief, the Bell Spherical Helmets include at least the
2 following motor sports and cycling helmet models: Moto-10 Spherical; Full-10 Spherical;
3 XR Spherical; Super DH Spherical; Super Air R Spherical; Super Air Spherical; and other
4 Bell helmets incorporating Spherical or similar technology regarding the features identified
5 herein.⁴

6 4. On information and belief, the Bell MIPS Helmets include at least the
7 following models of motor sports and cycling helmets: Lithium MIPS; MX-9 MIPS; MX-
8 9 Adventure MIPS; Qualifier DLX MIPS; Moto-9 Youth MIPS; Moto-9 MIPS; Stratus
9 MIPS; Stratus Ghost MIPS; Falcon XR MIPS; Falcon XR LED MIPS; Falcon XRV MIPS;
10 Falcon XRV LED MIPS; Sixer MIPS; 4Forty Air MIPS; 4Forty MIPS; Drifter MIPS; Z20
11 MIPS; Trace MIPS; Nomad Jr. MIPS; Avenue MIPS; Formula MIPS; Spark 2 MIPS;
12 Nomad 2 MIPS; Daily LED MIPS; and other Bell helmets incorporating MIPS Evolve or
13 similar technology regarding the features identified herein.⁵

14 5. On information and belief, the Giro Spherical Helmets include at least the
15 following models of cycling and snow sports helmets: Eclipse Spherical; Coalition
16 Spherical; Aries Spherical; Insurgent Spherical; Helios Spherical; Manifest Spherical;
17 Aether Spherical; Women's Merit Spherical; Merit Spherical; Owen Spherical; Tor
18 Spherical; Tenaya Spherical; Grid Spherical; Envi Spherical; Orbit Spherical; Signes
19 Spherical; Emerge Spherical; Aria Spherical; and other Giro helmets incorporating
20 Spherical or similar technology regarding the features identified herein.⁶

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22 ⁴ See, e.g., <https://www.bellhelmets.com/technology/spherical.html> (last visited
23 November 26, 2024).

24 ⁵ See, e.g., <https://www.bellhelmets.com/bike/c/all-bike-helmets/> (last visited November
25 26, 2024); <https://www.bellhelmets.com/motorcycle/c/all-motorcycle-helmets/> (last
26 visited November 26, 2024); <https://www.bellhelmets.com/technology/mips.html> (last
visited November 26, 2024).

27 ⁶ See, e.g., <https://www.giro.com/c/bike-helmets/> (last visited November 26, 2024);
<https://www.giro.com/c/ski-and-snowboard-helmets/> (last visited November 26, 2024).

1 6. On information and belief, the Giro MIPS Helmets include at least the
2 following models of cycling and snow sports helmets: Cielo Mips, Fixture Mips II, Syntax
3 Mips, Agilis Mips, Montaro Mips II, Escape Mips, Caden Mips II, Register Mips II, Isole
4 Mips II, Register Mips II XL, Register Mips II LED, Monataro Mips, Fixture Mips II XL,
5 Ethos Mips Shield, Ethos Mips, Evoke Mips, Rapid Mips, Synthe Mips, Source Mips,
6 Artex Mips, Switchblade Mips, Camden Mips, Vanquish Mips, Caden Mips, Quarter Mips,
7 Disciple Mips, Register Mips, Cinder Mips, Cormick Mips, Sutton Mips, Cormick Mips
8 XL, Bexley Mips, Aerohead Mips, Taggart Mips, Tenet Mips, Jackson Mips, Terra Mips,
9 Ledge Mips, Trig Mips, Range Mips, Stellar Mips, Neo Mips, Vue Mips, Vue Mips VIVID,
10 Ledge SL Mips, Ledge FS Mips, Spur Mips, Avera Mips, Crue Mips, Ceva Mips, Union
11 Mips, Essence Mips, Essence Mips VIVID, Ratio Mips, Ledge Mips Asian Fit, Zone Mips,
12 New Mips Asian Fit, Essence Mips, Avera Mips Asian Fit, Buzz Mips, Strive Mips, and
13 other Giro helmets incorporating MIPS or similar technology regarding the features
14 identified herein.⁷

15 7. On information and belief, the Fox MIPS Helmets include at least the
16 following models of cycling and motor sports helmets: Proframe RS, V3 RS, Rampage,
17 Dropframe, Speedframe, Crossframe, Mainframe, Proframe, and other Fox helmets
18 incorporating MIPS or similar technology regarding the features identified herein.⁸

19 8. Plaintiff BrainGuard seeks appropriate damages and prejudgment and post-
20 judgment interest for Defendants' infringement of the Asserted Patents.

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25 ⁷ See, e.g., <https://www.giro.com/c/bike-helmets/> (last visited November 26, 2024);
26 <https://www.giro.com/c/ski-and-snowboard-helmets/> (last visited November 26, 2024).

27 ⁸ See, e.g., <https://www.foxracing.com/helmets/moto/> (last visited November 26, 2024);
 <https://www.foxracing.com/helmets/mtb/> (last visited November 26, 2024).

1 THE PARTIES

2 9. Plaintiff BrainGuard is a corporation organized and existing under the laws of
3 the State of Delaware, with its principal place of business at 1395 Rifle Range Road
4 El Cerrito, CA, 94530. Founded in 2011 by Drs. Robert Knight, a UC Berkeley faculty
5 member and neurologist, and Ram Gurumoorthy, a UC Berkeley Ph.D. engineer,
6 BrainGuard set out on a mission to improve helmet technology and diminish the effects of
7 rotational force—a major contributor to long-term neurological disability—during cranial
8 impacts. BrainGuard has since established a research facility, developed its own testing
9 equipment, and created its own patented rotational force mitigation technology.

10 10. On information and belief, defendant Vista Outdoor Inc. is a corporation
11 organized under the laws of the State of Delaware, with its corporate headquarters at 1
12 Vista Way, Anoka, Minnesota 55303. On further information and belief, Vista Outdoor Inc.
13 is registered to do business in California. According to its website, “Vista Outdoor is the
14 parent company of more than three dozen renown brands that design, manufacture and
15 market sporting and outdoor products.”⁹ On further information and belief, Vista Outdoor
16 Inc.’s sports safety equipment brands (which includes cycling, motor sports, and snow
17 sports helmets) are managed by its wholly-owned Revelyst Adventure Sports business
18 unit.¹⁰ On further information and belief, Vista’s “Bell brand is #1 in cycling helmets” and
19 its “Giro brand is ... #2 in snow helmets.”¹¹ On further information and belief, “Fox Racing

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23 ⁹ <https://vistaoutdoor.com/about/> (last visited November 26, 2024).

24 ¹⁰ See, e.g., Vista Outdoor 2024 Annual Report,
25 https://s29.q4cdn.com/177147254/files/doc_financials/2024/ar/vista-outdoor-inc-_fy24-annual-report-as-filed.pdf (last visited November 26, 2024), at pp. 2-3.

26 ¹¹ See, e.g., Vista Outdoor 2024 Annual Report,
27 https://s29.q4cdn.com/177147254/files/doc_financials/2024/ar/vista-outdoor-inc-_fy24-annual-report-as-filed.pdf (last visited November 26, 2024), at pp. 2-3.

1 is one of the most recognized and revered brands in motorcross and mountain bike
2 protection.”¹²

3 11. On information and belief, defendant Vista Outdoor Operations LLC is a
4 limited liability company organized and existing under the laws of the State of Delaware,
5 with its principal place of business at 1 Vista Way, Anoka, Minnesota 55303. On further
6 information and belief, Vista Outdoor Operations LLC. is registered to do business in
7 California. On further information and belief, Vista Outdoor Operations LLC is a wholly-
8 owned subsidiary of defendant Vista Outdoor Inc. Vista Outdoor Inc. and Vista Outdoor
9 Operations LLC will be, for the purposes of this complaint, collectively referred to as
10 “Vista.”

11 12. On information and belief, defendant Revelyst Sales LLC (“Revelyst”) is
12 limited liability corporation organized under the laws of the State of Delaware, with its
13 corporate headquarters listed as 1 Vista Way, Anoka, Minnesota 55303. On further
14 information and belief, Revelyst is registered to do business in California. On further
15 information and belief, Revelyst is a business entity that is wholly owned by Vista and
16 operates as part of its core sporting and outdoor products business. On further information
17 and belief, Revelyst operates offices located at 16752 Armstrong Avenue, Irvine, California
18 92606.¹³ On further information and belief, and according to Revelyst’s website, Revelyst
19 is “a new parent company of more than 30 renown brands that design, manufacture and
20 market outdoor products.”¹⁴ In relevant part, Bell, Giro Sport Design, and Fox Racing are
21 listed by Revelyst as brands managed under its “Revelyst Adventure Sports platform.”¹⁵

22 ¹² See, e.g., Vista Outdoor 2024 Annual Report,
23 https://s29.q4cdn.com/177147254/files/doc_financials/2024/ar/vista-outdoor-inc-fy24-annual-report-as-filed.pdf (last visited November 26, 2024), at p. 2.

24 ¹³ <https://www.revelyst.com/company.html> (last visited November, 26, 2024).

25 ¹⁴ <https://www.revelyst.com/company.html> (last visited November 26, 2024).

26 ¹⁵ <https://www.revelyst.com/brands.html> (last visited November 26, 2024); see also
27 Revelyst’s Bell webpage at <https://www.revelyst.com/brands/bell.html> (last visited November 26, 2024); Revelyst’s Giro webpage at

1 On further information and belief, Vista has characterized Bell, Giro, and Fox as Revelyst
2 “power brands” in press releases.¹⁶ On further information and belief, Revelyst’s
3 “Investors” link at the top of its homepage redirects users to Vista’s “Investor Relations”
4 webpage at <https://investors.vistaoutdoor.com/overview/default.aspx>.

5 13. On information and belief, on or about October 4, 2024, Vista’s Revelyst
6 business unit was acquired by defendant Strategic Value Partners, LLC (“SVP”) in “an all-
7 cash transaction based on an enterprise value of \$1.125 billion” that is “expected to close
8 by January 2025.”¹⁷ On information and belief, SVP is a “global investment firm focused
9 on opportunistic credit and private equity opportunities in North America and Europe.”¹⁸
10 On further information and belief, SVP is a limited liability company organized under the
11 laws of the State of Delaware with offices in Greenwich, Connecticut, New York City, and
12 Los Angeles.¹⁹ On further information and belief, SVP is registered to do business in
13 California and maintains an office at 11150 Santa Monica Blvd., Suite 1280, Los Angeles,
14 California 90025.²⁰ On further information and belief, SVP holds an ownership interest in
15 Revelyst and has entered into a “strategic partnership [that] is expected to allow Revelyst

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20 <https://www.revelyst.com/brands/giro.html> (last visited November 26, 2024); Revelyst’s
21 Fox webpage at <https://www.revelyst.com/brands/fox-racing.html> (last visited November
22 26, 2024).

23 ¹⁶ <https://investors.vistaoutdoor.com/Investors/news/news-details/2024/Revelyst-Partners-with-Strategic-Value-Partners-to-Accelerate-Growth/default.aspx> (last visited November
24 26, 2024).

25 ¹⁷ <https://investors.vistaoutdoor.com/Investors/news/news-details/2024/Revelyst-Partners-with-Strategic-Value-Partners-to-Accelerate-Growth/default.aspx> (last visited November
26 26, 2024).

27 ¹⁸ <https://www.svpglobal.com/> (last visited November 26, 2024).

¹⁹ <https://www.svpglobal.com/contact-us/> (last visited November 26, 2024).

²⁰ <https://www.svpglobal.com/contact-us/> (last visited November 26, 2024).

1 to unlock new opportunities and proper margin expansion across its integrated international
2 house of brands.”²¹

3 14. On information and belief, Defendants’ operations in the Central District of
4 California are substantial and varied.

5 15. By registering to conduct business in California and by maintaining facilities
6 in at least the cities of Los Angeles and Irvine, Defendants each have regular and
7 established places of business within the Central District of California.

8 16. On information and belief, each of the Defendants is jointly and severally
9 liable for each of the causes of action asserted herein.

10 **JURISDICTION AND VENUE**

11 17. This is an action for patent infringement arising under the Patent Laws of the
12 United States, Title 35 of the United States Code.

13 18. This Court has original subject matter jurisdiction under 28 U.S.C. §§ 1331
14 and 1338(a).

15 19. This Court has personal jurisdiction over Defendants in this action because
16 Defendants have committed acts within this District giving rise to this action and has
17 established minimum contacts with this forum such that the exercise of jurisdiction over
18 Defendants would not offend traditional notions of fair play and substantial justice.
19 Defendants, directly and/or through subsidiaries or intermediaries, have committed and
20 continue to commit acts of infringement in this District by, among other things, making,
21 using, offering to sell, selling, and/or importing products that infringe the Asserted Patents.

22 20. Defendants, directly and/or through subsidiaries or intermediaries, have
23 purposefully and voluntarily placed one or more products in the stream of commerce that
24 practice the Asserted Patents with the intention and expectation that they will be purchased

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26 ²¹ <https://investors.vistaoutdoor.com/Investors/news/news-details/2024/Revelyst-Partners-with-Strategic-Value-Partners-to-Accelerate-Growth/default.aspx> (last visited November
27 26, 2024).

1 and used by third party resellers and/or end consumers in the Central District of California.
2 These products have been and continue to be purchased and used in this District.

3 21. Venue is proper in this District under 28 U.S.C. §§ 1391(b)-(c) and 1400(b).
4 Defendants are each registered to do business in California. Additionally, on information
5 and belief, Defendants have transacted business in this District and have committed acts of
6 direct infringement in this District by, among other things, making, using, offering to sell,
7 selling, and/or importing products that infringe the Asserted Patents. Moreover, on
8 information and belief, Defendants each have regular and established places of business in
9 the Central District of California, including at 16752 Armstrong Avenue, Irvine, California
10 92606 and 11150 Santa Monica Blvd., Suite 1280, Los Angeles, California 90025.

11 **THE ASSERTED PATENTS**

12 22. The '319 Patent is titled "Biomechanics Aware Protective Gear" and was
13 issued by the United States Patent and Trademark Office to inventor Robert T. Knight on
14 October 21, 2014, and assigned to BrainGuard Technologies, Inc. The '319 Patent claims
15 priority to July 21, 2011. A true and correct copy of the '319 Patent is attached hereto as
16 Exhibit A.

17 23. BrainGuard is the owner of all right, title, and interest in and to the '319 Patent
18 with the full and exclusive right to bring suit to enforce the '319 Patent.

19 24. The '319 Patent is valid and enforceable under the United States Patent Laws.

20 25. The '561 Patent is titled "Biomechanics Aware Helmet" and was issued by the
21 United States Patent and Trademark Office to inventor Robert T. Knight on June 23, 2015,
22 and assigned to BrainGuard Technologies, Inc. A true and correct copy of the '561 Patent
23 is attached hereto as Exhibit B.

24 26. BrainGuard is the owner of all right, title, and interest in and to the '561 Patent
25 with the full and exclusive right to bring suit to enforce the '561 Patent.

26 27. The '561 Patent is valid and enforceable under the United States Patent Laws.

28. The '536 Patent is titled "Biomechanics Aware Protective Gear" and was issued by the United States Patent and Trademark Office to inventor Robert T. Knight on March 1, 2016, and assigned to BrainGuard Technologies, Inc. A true and correct copy of the '536 Patent is attached hereto as Exhibit C.

29. BrainGuard is the owner of all right, title, and interest in and to the '536 Patent with the full and exclusive right to bring suit to enforce the '536 Patent.

30. The '536 Patent is valid and enforceable under the United States Patent Laws.

31. The '635 Patent is titled "Biomechanics Aware Helmet" and was issued by the United States Patent and Trademark Office to inventor Robert T. Knight on August 16, 2016, and assigned to BrainGuard Technologies, Inc. A true and correct copy of the '635 Patent is attached hereto as Exhibit D.

32. BrainGuard is the owner of all right, title, and interest in and to the '635 Patent with the full and exclusive right to bring suit to enforce the '635 Patent.

33. The '635 Patent is valid and enforceable under the United States Patent Laws.

34. The '909 Patent is titled "Biomechanics Aware Helmet" and was issued by the United States Patent and Trademark Office to inventor Robert T. Knight on December 13, 2016, and assigned to BrainGuard Technologies, Inc. A true and correct copy of the '909 Patent is attached hereto as Exhibit E.

35. BrainGuard is the owner of all right, title, and interest in and to the '909 Patent with the full and exclusive right to bring suit to enforce the '909 Patent.

36. The '909 Patent is valid and enforceable under the United States Patent Laws.

FIRST CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE
'319 PATENT BY DEFENDANTS)

37. BrainGuard re-alleges and incorporates by reference all of the foregoing paragraphs.

38. On information and belief, Defendants have directly infringed and continue to directly infringe either literally or under the doctrine of equivalents, one or more claims, including at least claim 6 of the '319 Patent in violation of 35 U.S.C. § 271, et seq., by making, using, offering to sell, selling, and/or importing at least the Bell Spherical and Giro Spherical Helmets.

39. Claim 6 of the '319 Patent provides:

[6.preamble] A helmet, comprising:

[6.a] an outer shell layer;

[6.b] a middle shell layer connected to the outer shell layer through an outer energy and impact transformer layer,

[6.c] the outer energy and impact transformer layer operable to absorb energy from mechanical forces imparted onto the outer shell layer,

[6.d] wherein the outer energy and impact transformer layer includes means to allow the outer shell layer to slide relative to the middle shell layer;

[6.e] an inner shell layer connected to the middle shell layer through an inner energy and impact transformer layer,

[6.f] the inner energy and impact transformer layer operable to absorb energy from mechanical forces imparted onto the middle shell through the outer shell and the outer energy and impact transformer layer,

[6.g] wherein the inner energy and impact transformer layer includes means to allow the middle shell layer to slide relative to the inner shell layer.

40. On information and belief, Defendants design, make, offer for sale, sell, and/or import Bell Spherical and Giro Spherical Helmets that meet each and every limitation of at least claim 6 of the '319 Patent as stated below.

1 41. On information and belief, and based on publicly available information, all
2 Bell Spherical Helmets have the same or similar technology regarding the below-identified
3 features. On further information and belief, and based on publicly available information,
4 the Bell XR Spherical helmet is representative of the Bell Spherical Helmets. On further
5 information and belief, and based on publicly available information, each of the Bell
6 Spherical Helmets functions and is structured in a manner similar, if not identical, to the
7 Bell XR Spherical helmet as it relates to infringing the '319 Patent. And on further
8 information and belief, and based on publicly available information, each of the Bell
9 Spherical Helmets possesses features and/or attributes similar, if not identical, to those
10 features and/or attributes of the Bell XR Spherical helmet identified by BrainGuard as
11 infringing the '319 Patent. Accordingly, the analysis of the Bell XR Spherical helmet that
12 follows applies equally to each of the accused Bell Spherical Helmets.

13 42. On information and belief, and based on publicly available information, all
14 Giro Spherical Helmets have the same or similar technology regarding the below-identified
15 features. On further information and belief, and based on publicly available information,
16 the Giro Aries Spherical helmet is representative of the Giro Spherical Helmets. On further
17 information and belief, and based on publicly available information, each of the Giro
18 Spherical Helmets functions and is structured in a manner similar, if not identical, to the
19 Giro Aries Spherical helmet as it relates to infringing the '319 Patent. And on further
20 information and belief, and based on publicly available information, each of the Giro
21 Spherical Helmets possesses features and/or attributes similar, if not identical, to those
22 features and/or attributes of the Giro Aries Spherical helmet identified by BrainGuard as
23 infringing the '319 Patent. Accordingly, the analysis of the Giro Aries Spherical helmet
24 that follows applies equally to each of the accused Giro Spherical Helmets.

25 43. The preamble of claim 6 requires: “[a] helmet.” To the extent possible that the
26 preamble of claim 6 of the '319 Patent is determined to be limiting, the Bell Spherical and
27 Giro Spherical Helmets satisfy the preamble, as seen in the figures below.



Fig. 1.²² Bell XR Spherical Helmet.



Fig. 2.²³ Giro Aries Spherical Helmet.

²² <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024).

²³ <https://www.giro.com/p/aries-spherical-road-bike-helmet/100000000300000146.html> (last visited November 26, 2024).

1 44. Limitation [6.a] requires “an outer shell layer.” On information and belief,
2 each of the Bell Spherical and Giro Spherical Helmets satisfies limitation [6.a]. As seen in
3 the figures below, the Bell Spherical and Giro Spherical Helmets are comprised of multiple
4 layers.



21 **Fig. 3.**²⁴ Screenshot of video available at the Bell XR Spherical product page.
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25 ²⁴ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024); *see also* <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:44s (last visited November 26, 2024).



PROGRESSIVE LAYERING™

Giro helmets with Progressive Layering™ use two different density EPS foam liners to address high- and low-speed impacts for more comprehensive energy management.

Fig. 4.²⁵ Screenshot of one of the advertised features of the Giro Aries Spherical helmet noting that the helmet incorporates multiple layers.

45. As further seen in the figures below, each of the Bell Spherical and Giro Spherical Helmets incorporates an outer shell layer.

²⁵ <https://www.giro.com/p/aries-spherical-road-bike-helmet/100000000300000146.html> (last visited November 26, 2024).



Fig. 5.²⁶ Screenshot of video available at the Bell XR Spherical product page.

²⁶ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024) (emphasis added); see also <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45s (last visited November 26, 2024).

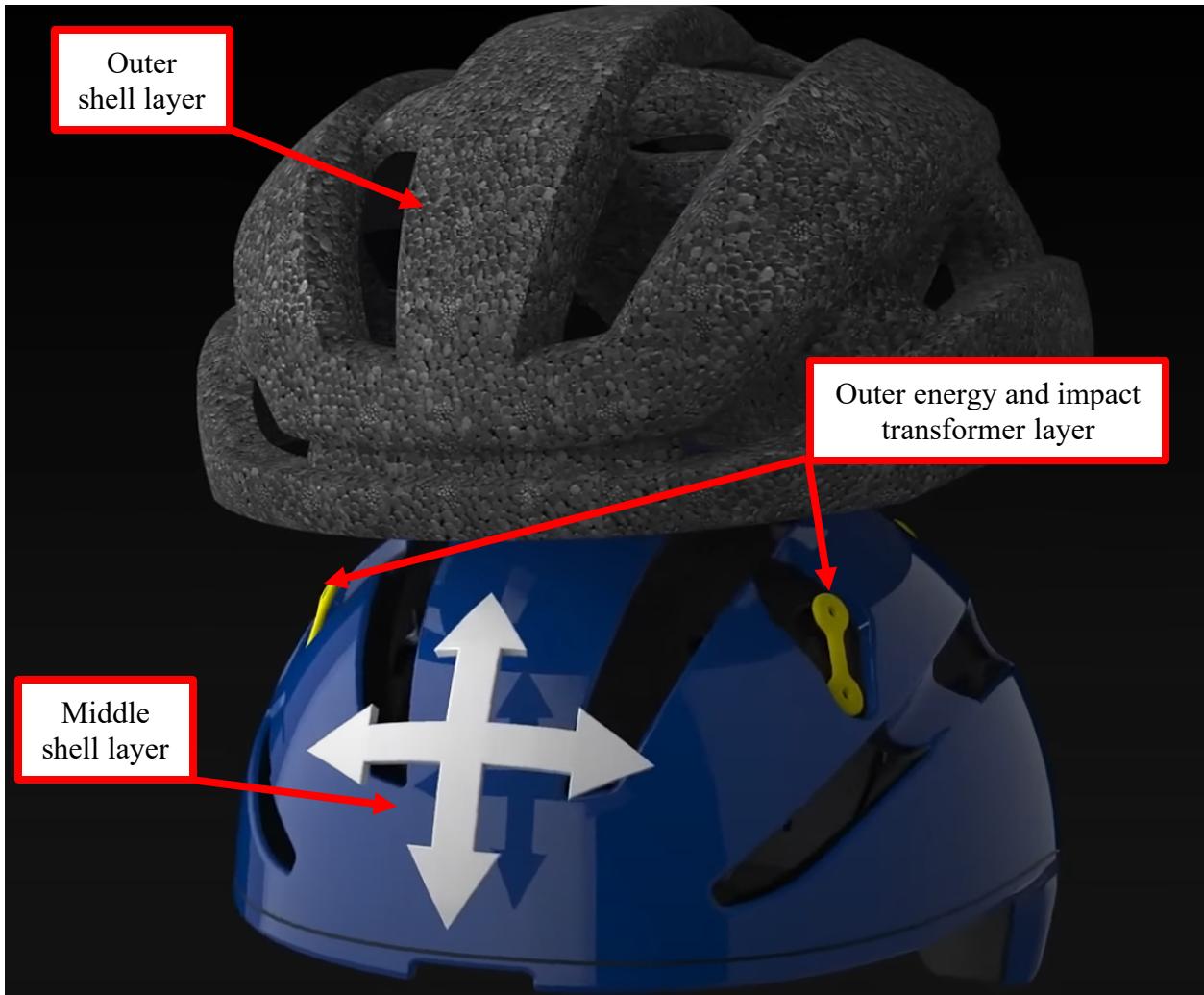


Fig. 6. Photo of a Giro Aries Spherical helmet.

46. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [6.a] of the '319 Patent.

47. Limitation [6.b] requires "a middle shell layer connected to the outer shell layer through an outer energy and impact transformer layer." On information and belief, each of the Bell Spherical and Giro Spherical Helmets satisfies limitation [6.b]. For example, the Bell XR Spherical helmet, as seen in the figure below, satisfies limitation [6.b]. The Bell XR Spherical helmet, as previously discussed, incorporates an "outer shell layer" (the gray component in the figure below). Further, the Bell XR Spherical helmet incorporates a "middle shell layer" (the blue component in the figure below). Lastly, the Bell XR Spherical helmet incorporates an "outer energy and impact transformer layer" connecting the outer and middle layers, which is comprised of the low-friction elastic band

1 interface (the yellow elastic elements in the figure below) between the shells that allows
2 them to rotate relative to one another during impact.



19 **Fig. 7.²⁷** Screenshot of video available at the Bell XR Spherical product page.
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21 48. As a further example, the figure below demonstrates the Bell XR Spherical
22 helmet as commercially sold, with the outer, middle, and transformer layers visible.
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25 ²⁷ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024)(emphasis added);
26 see also <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45s (last visited
27 November 26, 2024).



20 **Fig. 8.** Photo of Bell XR Spherical helmet with outer, middle, and transformer layers
21 marked.

22 49. As a further example, the Giro Aries Spherical Helmet also satisfies limitation
23 [6.b]. As seen and marked in the figure below, the Giro Aries Spherical helmet incorporates
24 an “outer shell layer.” Further, as seen and marked in the figure below, the Giro Aries
25 Spherical helmet incorporates a “middle shell layer.” Lastly, the Giro Aries Spherical
26 helmet incorporates an “outer energy and impact transformer layer” connecting the outer
27 and middle layers, which is comprised of the low-friction elastic band interface (the yellow

1 elastic elements in the figure below) between the outer and middle shell layers that allows
2 them to rotate relative to one another during impact.

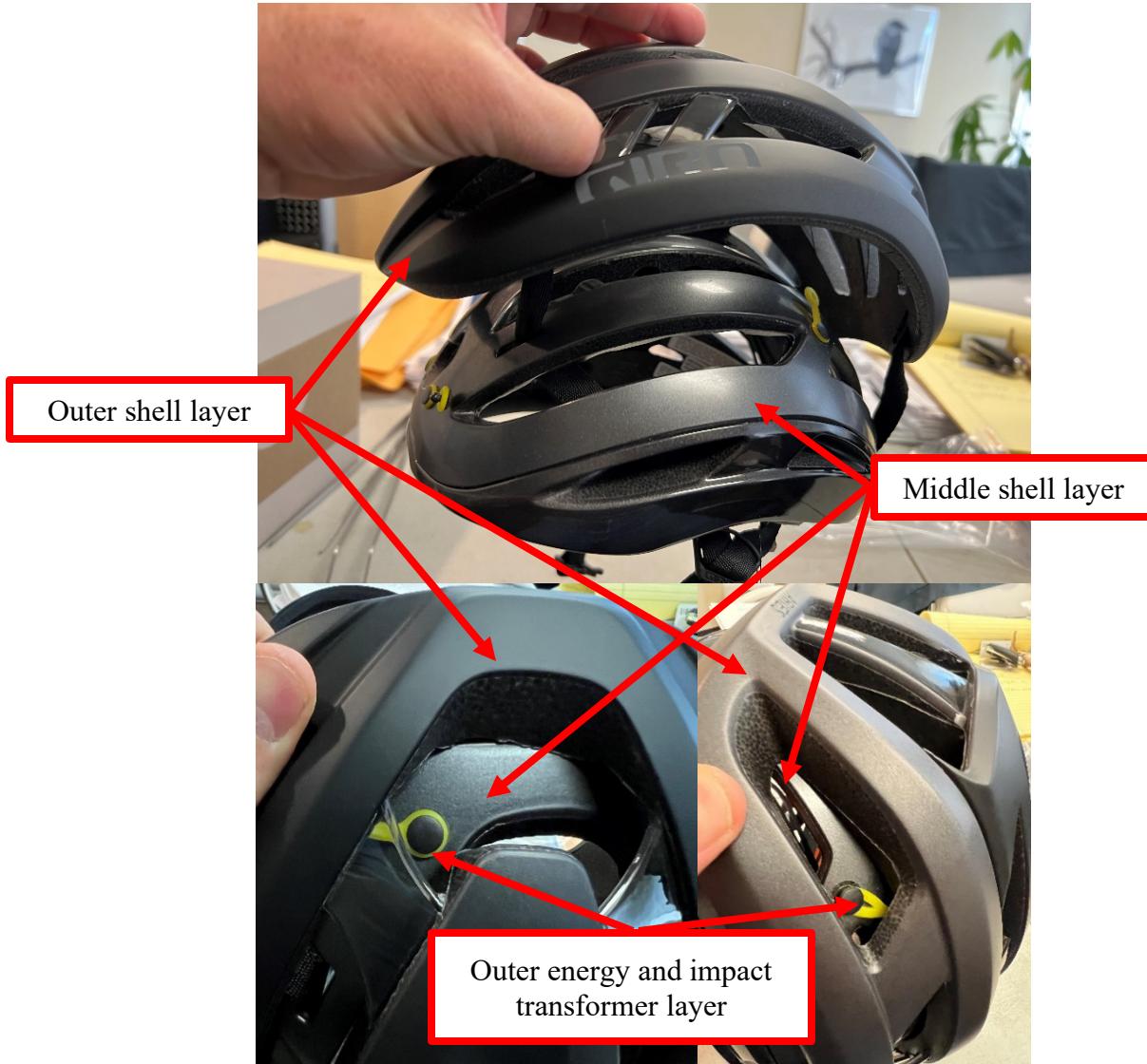
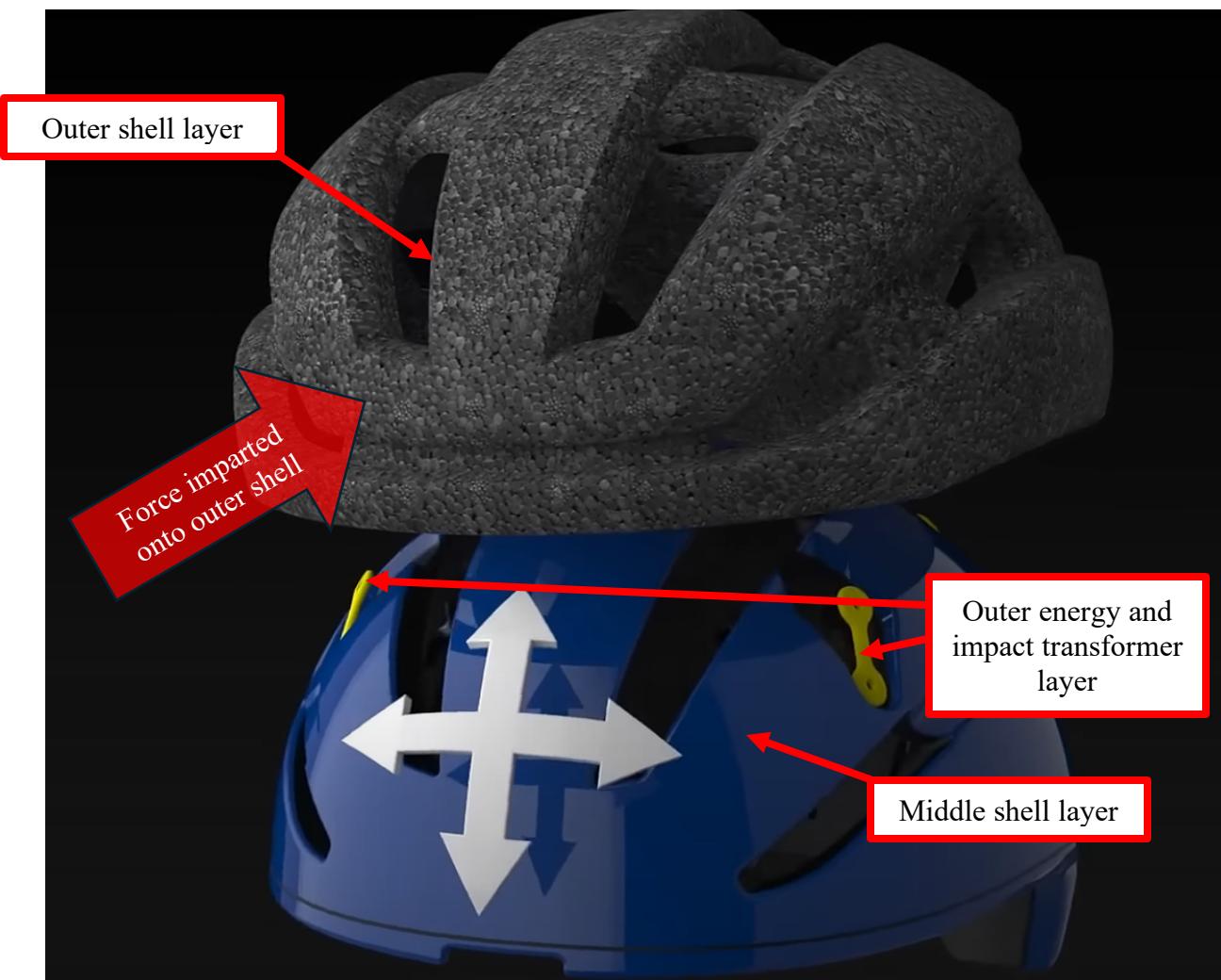


Fig. 9. Photos of the Giro Aries Spherical helmet with outer, middle, and outer energy and impact transformer layers marked.

20 50. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [6.b]
21 of the '319 Patent.

22 51. Limitation [6.c] requires "the outer energy and impact transformer layer
23 operable to absorb energy from mechanical forces imparted onto the outer shell layer." On
24 information and belief, each of the Bell Spherical and Giro Spherical Helmets satisfies
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1 limitation [6.c]. For example, the Bell XR Spherical helmet, as seen in the figure below,
2 satisfies limitation [6.c]. On information and belief, the outer energy and impact
3 transformer layer (the yellow elastic elements) absorbs energy from forces imparted on the
4 outer shell layer (e.g., the large red arrow indicating a frontal impact) by allowing the outer
5 and middle layers to slide relative to each other and transferring energy to the elastic bands.

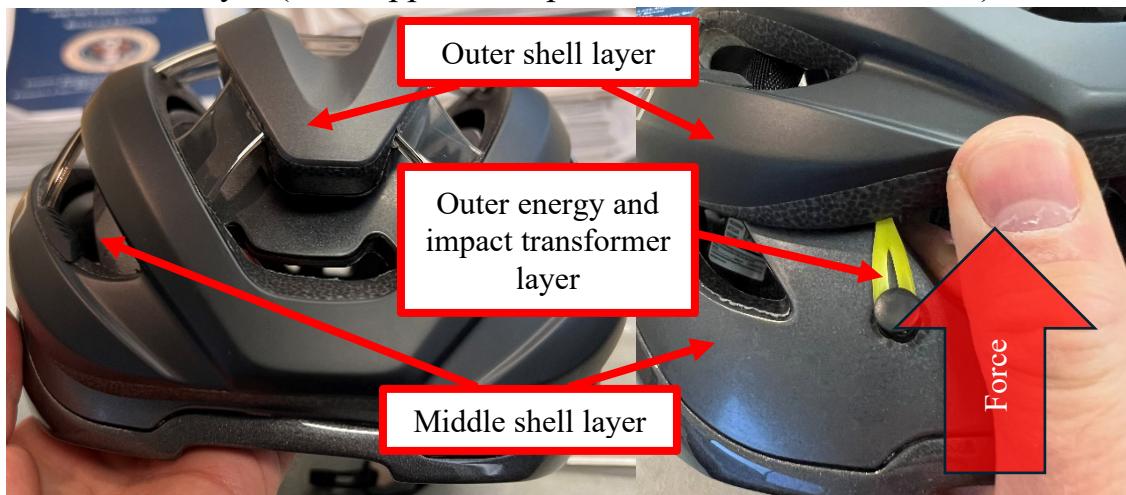


23 **Fig. 10.²⁸** Screenshot of video available at the Bell XR Spherical product page with
24 components labeled.

25 ²⁸ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024)(emphasis added);
26 see also <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45-1:03 (last visited
27 November 26, 2024).

1 52. On further information and belief, Defendants advertise that “Spherical
2 combines two different materials—EPS and EPP—to better manage both high and low
3 speed impacts. The Ball-and-Socket design powered by MIPS can help redirect impact
4 forces away from the brain by allowing the outer liner to rotate around the inner liner during
5 a crash.”²⁹

6 53. On further information and belief, the Giro Aries Spherical helmet also
7 satisfies limitation [6.c]. The figure below demonstrates that the outer energy and impact
8 transformer layer (the yellow elastic element) allows the outer shell and middle shell layers
9 to slide relative to one another when a force is imparted on the outer shell layer. Testing by
10 BrainGuard of the commercially-available Giro Aries Spherical helmet confirmed that
11 applying a force on the outer shell layer of a Giro Aries Spherical helmet allowed the outer
12 energy and impact transformer layer to absorb energy from a mechanical force imparted
13 onto the outer shell layer (here, applied via pressure from a user’s thumb).



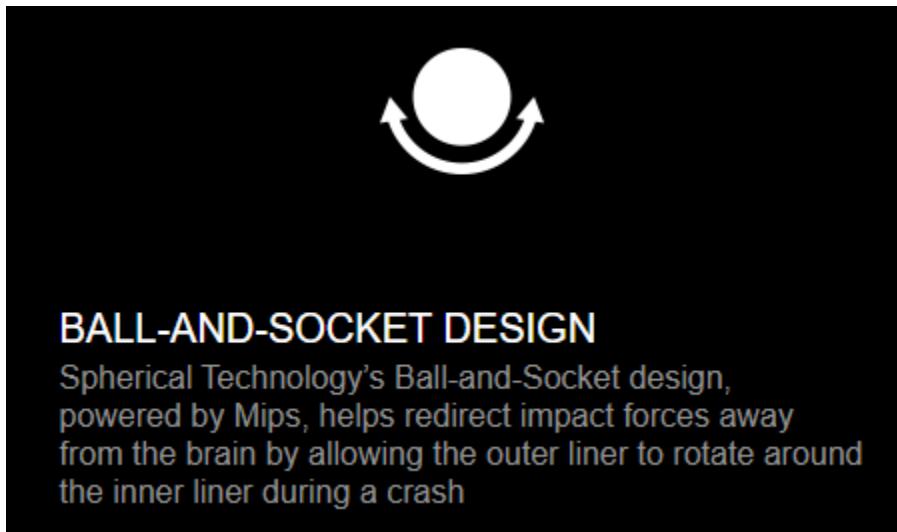
21 **Fig. 11.** Photos of testing a Giro Aries Spherical helmet. In this example, force is applied
22 to the outer shell layer by a thumb in the direction of the red arrow.

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24
25 ²⁹ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024); see also
26 <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45-1:03 (last visited November
27 26, 2024).

1 54. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [6.c]
2 of the '319 Patent.

3 55. Limitation [6.d] requires "wherein the outer energy and impact transformer
4 layer includes means to allow the outer shell layer to slide relative to the middle shell
5 layer." On information and belief, each of the Bell Spherical and Giro Spherical Helmets
6 satisfies limitation [6.d]. As previously discussed in connection with at least limitation [6.c]
7 herein, each of the Bell Spherical and Giro Spherical Helmets allows the outer and middle
8 shell layers to slide relative to each other during impact via the outer energy and impact
9 transformer layer.

10 56. As a further example, and as seen below, Defendants advertise the Ball-and-
11 Socket design in connection with Bell Spherical Helmets.



20 **Fig. 12.**³⁰ Screenshot of Bell Helmet Spherical Technology webpage.
21

22 57. As a further example, and as seen below, Defendants advertise the Ball-and-
23 Socket design in connection with Giro Spherical Helmets.
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25
26

27 ³⁰ <https://www.bellhelmets.com/technology/spherical.html> (last visited November 26, 2024).

1 2 HOW DOES SPHERICAL 3 TECHNOLOGY WORK? 4

5 The unique ball-and-socket design of Spherical Technology utilizes two separate liners to help
6 manage impact forces. The material and density of the inner and outer liners can be optimized with
7 Progressive Layering to help manage a broad range of impact forces. When you combine the
8 benefits of Progressive Layering with the market-leading MIPS® Brain Protection System, designed
9 to help redirect rotational motion away from the brain, you get more comprehensive protection.

10 BALL-AND-SOCKET DESIGN

11 Spherical Technology's Ball-and-Socket design, powered by MIPS®, helps redirect
12 impact forces away from the brain by allowing the outer liner to rotate around the
13 inner liner during a crash. It also eliminates contact with hard plastic or slip-planes
14 against the skin.

15 **Fig. 13.**³¹ Excerpts of Giro's Spherical Technology webpage.

16 58. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [6.d]
17 of the '319 Patent.

18 59. Limitation [6.e] requires "an inner shell layer connected to the middle shell
19 layer through an inner energy and impact transformer layer." On information and belief,
20 each of the Bell Spherical and Giro Spherical Helmets satisfies limitation [6.e]. For
21 example, the Bell XR Spherical helmet includes an inner shell layer connected to the
22 middle shell layer through an inner energy and impact transformation layer, as depicted in
23 the figure below.

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27 ³¹ <https://www.giro.com/technology/spherical.html> (last visited November 26, 2024).



Fig. 14.³² Screenshot from the Bike Rumor! review article regarding the Bell XR Spherical helmet.

60. Testing of the Bell XR Spherical helmet confirmed the presence of an inner shell layer connected to the middle shell layer through an inner energy and impact transformer layer, as seen in the figures below.

³² <https://bikerumor.com/review-bell-xr-spherical-gravel-adventure-helmet/> (last visited November 26, 2024).



Fig. 15. Photos of the Bell XR Spherical helmet. The bottom photo depicts the inner shell layer disconnected from the middle shell layer to show the connection mechanism.

61. As a further example, the Giro Aries Spherical helmet includes an inner shell layer connected to the middle shell layer through an inner energy and impact transformation layer, as depicted in the figure below.

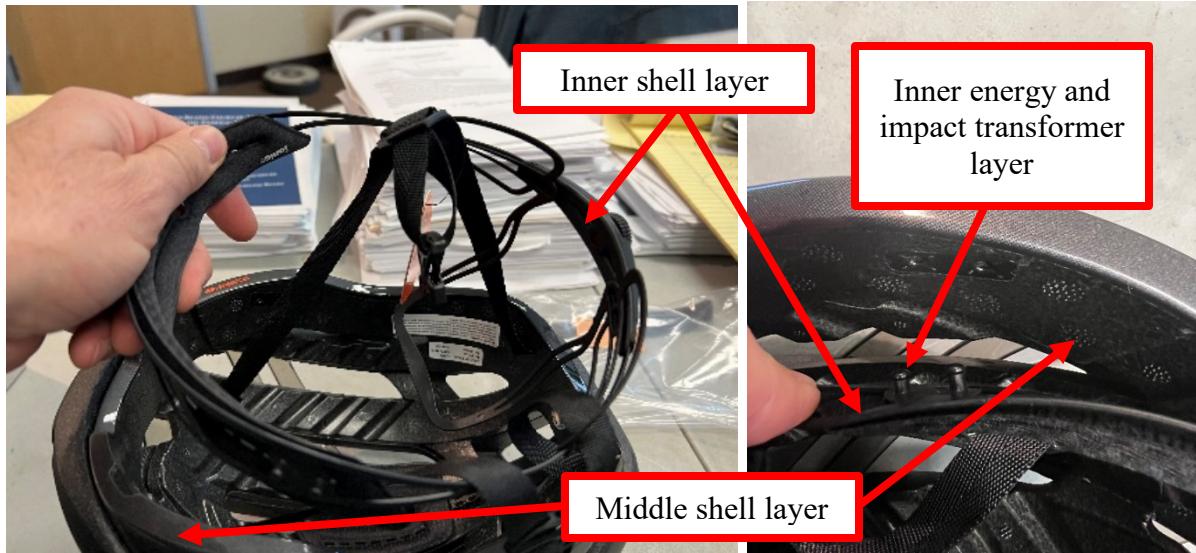


Fig. 16. Photos of the Giro Aries Spherical helmet showing the inner shell layer (disconnected from middle shell layer for illustration) (at left) and a close-up of the disconnected inner shell and middle shell layers (at right) to show the connection mechanism (the inner energy and impact transformer layer).

62. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [6.e] of the '319 Patent.

63. Limitation [6.f] requires "the inner energy and impact transformer layer operable to absorb energy from mechanical forces imparted onto the middle shell through the outer shell and the outer energy and impact transformer layer." On information and belief, each of the Bell Spherical and Giro Spherical Helmets satisfies limitation [6.f]. For example, based on information and belief and as depicted in the figure below, the Bell XR Spherical helmet incorporates an inner energy and impact transformer layer that includes both absorptive/dissipative material in the middle shell layer (e.g., the gray compressible material) to which the inner shell layer is attached, as well as absorptive/dissipative material in the flexible attachment between the middle and inner shell layers.

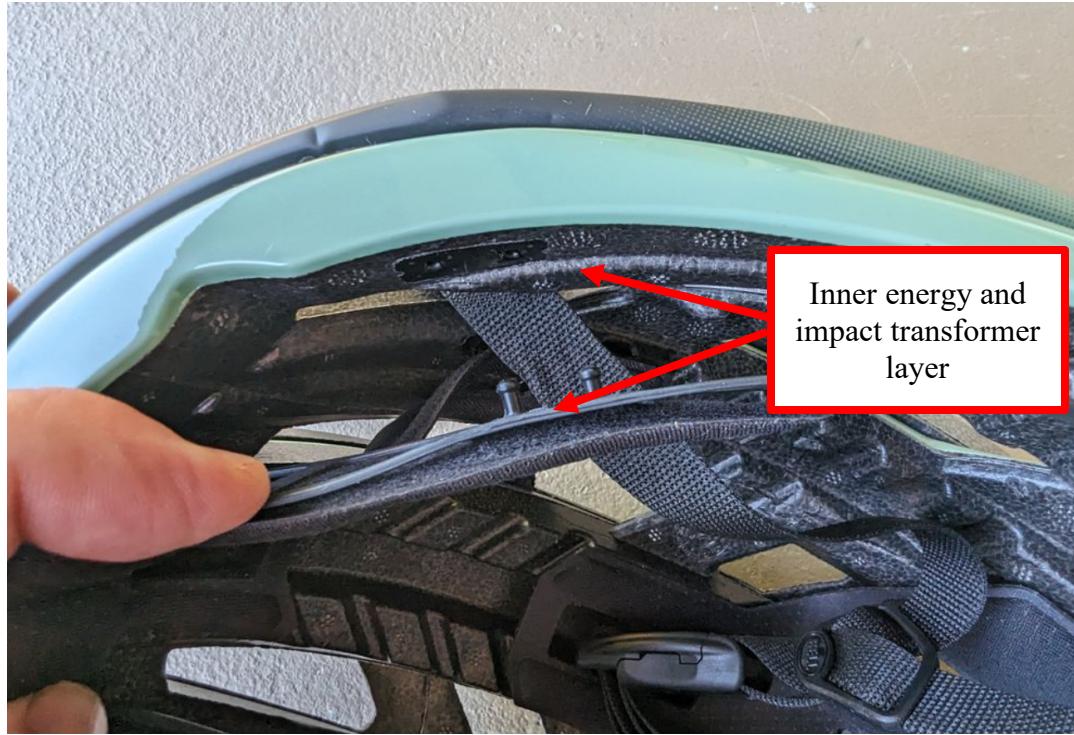


Fig. 17. Photo of the Bell XR Spherical helmet's inner and middle shells shown disconnected from one another to illustrate the connection mechanism.

64. As a further example, the Giro Aries Spherical helmet includes an inner energy and impact transformation layer that includes at least the flexible attachment between the middle and inner shell layers, as depicted in the figure below.



Fig. 18. Close-up photo of Giro Aries Spherical showing the disconnected inner shell and middle shell layers to illustrate the connection mechanism.

1 65. On further information and belief, and as depicted in the figure below, the
2 inner energy and impact transformer layer also includes at compressible material in the
3 middle shell layer to which the inner shell layer is attached.



13 **Fig. 19.** Photo of cross-section of the Giro Aries Spherical helmet. Note the compressible
14 material comprising the middle shell.

15 66. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [6.f] of
16 the '319 Patent.

17 67. Limitation [6.g] requires “wherein the inner energy and impact transformer
18 layer includes means to allow the middle shell layer to slide relative to the inner shell
19 layer.” On information and belief, each of the Bell Spherical and Giro Spherical Helmets
20 satisfies limitation [6.g]. For example, based on information and belief and as depicted in
21 the figure below, the Bell XR Spherical helmet is advertised by Defendants to “help[]
22 redirect impact forces away from the brain by allowing the outer liner to rotate around the
23 inner liner during a crash.”³³ Further, Defendants advertise that “[t]he Ball-and-Socket
24 design powered by MIPS can help redirect impact forces away from the brain by allowing
25

26 ³³ See, e.g., <https://www.bellhelmets.com/technology/spherical.html> (last visited
27 November 26, 2024).

1 the outer liner to rotates around the inner liner during a crash.”³⁴ On information and belief,
2 the inner energy and impact transformer layer of the Bell XR Spherical helmet will deform
3 to absorb energy from forces imparted on the middle shell layer through the outer shell and
4 outer energy and impact transformer layers. On further information and belief, the inner
5 shell layer will slide relative to the middle shell layer due to the deformation of the inner
6 energy and impact transformer layer on impact.



19 **Fig. 20.** Photo of the Bell XR Spherical inner and middle shells shown disconnected from
20 one another to illustrate the connection mechanism.

21 68. As a further example, and based on information and belief, the Giro Aries
22 Spherical helmet includes an inner energy and impact transformation layer that includes
23 means to allow the middle layer to slide relative to the inner shell layer. On information
24 and belief, the inner energy and impact transformer layer of the Giro Aries Spherical helmet

25
26 ³⁴ See, e.g., <https://www.bellhelmets.com/technology/spherical.html> (last visited
27 November 26, 2024); see also <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45-
1:03 (last visited November 26, 2024).

1 will deform to absorb energy from forces imparted on the middle shell layer through the
2 outer shell and outer energy and impact transformer layers. On information and belief, the
3 inner shell layer will slide relative to the middle shell layer due to the deformation of the
4 inner energy and impact transformer layer on impact.



13 **Fig. 21.** Close-up photo of Giro Aries Spherical showing the disconnected inner shell and
14 middle shell layers to illustrate the connection mechanism.

15 69. As a further example, Defendants advertise that Giro Spherical Helmets
16 incorporate “Ball-and-Socket design, powered by MIPS®, [which] helps redirect impact
17 forces away from the brain by allowing the outer liner to rotate around the inner liner during
18 a crash. It also eliminates contact with hard plastic or slip-planes against the skin.”³⁵

19 70. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [6.g]
20 of the '319 Patent.

21 71. Therefore, each of the Bell Spherical and Giro Spherical Helmets satisfies
22 each and every limitation of claim 6 of the '319 Patent, and therefore infringes at least
23 claim 6 of the '319 Patent.

24 72. At least as of the date of filing of the instant suit, Defendants have had
25 knowledge of their infringement of the '319 Patent. Accordingly, and to the extent that

27 ³⁵ <https://www.giro.com/technology/spherical.html> (last visited November 26, 2024).

1 Defendants continue to make, use, sell, offer to sell, and/or import any of the Bell Spherical
2 or Giro Spherical Helmets, Defendants' infringement of the '319 Patent in violation of 35
3 U.S.C. §§ 271 et seq. as detailed above, following the filing of the instant suit, is and
4 continues to be willful.

5 73. As a result of Defendants' infringement of the '319 Patent, BrainGuard has
6 suffered and continues to suffer substantial injury and is entitled to recover all damages
7 caused by Defendants' infringement to the fullest extent permitted by the Patent Act,
8 together with prejudgment interest and costs for Defendants' wrongful conduct.

SECOND CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE
'561 PATENT BY DEFENDANTS)

74. BrainGuard re-alleges and incorporates by reference all of the foregoing paragraphs.

75. On information and belief, Defendants have directly infringed and continue to directly infringe either literally or under the doctrine of equivalents, one or more claims, including at least claim 10, of the '561 Patent in violation of 35 U.S.C. § 271, et seq., by making, using, offering to sell, selling, and/or importing at least the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets.

76. Claim 10 of the '561 Patent provides:

[10.preamble] A helmet comprising:

[10.a] a first shell layer;

[10.b] a second shell layer connected to the first shell layer through a first energy transformer layer,

[10.c] the first energy transformer layer operable to absorb energy from forces imparted onto the first shell layer,

1 [10.d] wherein the first energy transformer layer includes an
2 absorptive/dissipative material to allow the first shell layer to slide relative
3 to the second shell layer;

4 [10.e] a lining layer connected to the second shell layer, wherein the lining
5 layer is configured to conform to a human head.

6 77. On information and belief, Defendants design, make, offer for sale, sell,
7 and/or import Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS
8 Helmets that meet each and every limitation of at least claim 10 of the '561 Patent as stated
9 below.

10 78. On information and belief, and based on publicly available information, all
11 Bell MIPS Helmets have the same or similar technology regarding the below-identified
12 features. On further information and belief, and based on publicly available information,
13 the Bell Stratus MIPS helmet is representative of the Bell MIPS Helmets. On further
14 information and belief, and based on publicly available information, each of the Bell MIPS
15 Helmets functions and is structured in a manner similar, if not identical, to the Bell Stratus
16 MIPS helmet as it relates to infringing the '561 Patent. And on further information and
17 belief, and based on publicly available information, each of the Bell MIPS Helmets
18 possesses features and/or attributes similar, if not identical, to those features and/or
19 attributes of the Bell Stratus MIPS helmet identified by BrainGuard as infringing the '561
20 Patent. Accordingly, the analysis of the Bell Stratus MIPS helmet that follows applies
21 equally to each of the accused Bell MIPS Helmets.

22 79. On information and belief, and based on publicly available information, all
23 Bell Spherical Helmets have the same or similar technology regarding the below-identified
24 features. On further information and belief, and based on publicly available information,
25 the Bell XR Spherical helmet is representative of the Bell Spherical Helmets. On further
26 information and belief, and based on publicly available information, each of the Bell
27 Spherical Helmets functions and is structured in a manner similar, if not identical, to the

1 Bell XR Spherical helmet as it relates to infringing the '561 Patent. And on further
2 information and belief, and based on publicly available information, each of the Bell
3 Spherical Helmets possesses features and/or attributes similar, if not identical, to those
4 features and/or attributes of the Bell XR Spherical helmet identified by BrainGuard as
5 infringing the '561 Patent. Accordingly, the analysis of the Bell XR Spherical helmet that
6 follows applies equally to each of the accused Bell Spherical Helmets.

7 80. On information and belief, and based on publicly available information, all
8 Giro MIPS Helmets have the same or similar technology regarding the below-identified
9 features. On further information and belief, and based on publicly available information,
10 the Giro Syntax Mips helmet is representative of the Giro MIPS Helmets. On further
11 information and belief, and based on publicly available information, each of the Giro MIPS
12 Helmets functions and is structured in a manner similar, if not identical, to the Giro Syntax
13 Mips helmet as it relates to infringing the '561 Patent. And on further information and
14 belief, and based on publicly available information, each of the Giro MIPS Helmets
15 possesses features and/or attributes similar, if not identical, to those features and/or
16 attributes of the Giro Syntax Mips helmet identified by BrainGuard as infringing the '561
17 Patent. Accordingly, the analysis of the Giro Syntax Mips helmet that follows applies
18 equally to each of the accused Giro MIPS Helmets.

19 81. On information and belief, and based on publicly available information, all
20 Giro Spherical Helmets have the same or similar technology regarding the below-identified
21 features. On further information and belief, and based on publicly available information,
22 the Giro Aries Spherical helmet is representative of the Giro Spherical Helmets. On further
23 information and belief, and based on publicly available information, each of the Giro
24 Spherical Helmets functions and is structured in a manner similar, if not identical, to the
25 Giro Aries Spherical helmet as it relates to infringing the '561 Patent. And on further
26 information and belief, and based on publicly available information, each of the Giro
27 Spherical Helmets possesses features and/or attributes similar, if not identical, to those

1 features and/or attributes of the Giro Aries Spherical helmet identified by BrainGuard as
2 infringing the '561 Patent. Accordingly, the analysis of the Giro Aries Spherical helmet
3 that follows applies equally to each of the accused Giro Spherical Helmets.

4 82. On information and belief, and based on publicly available information, all
5 Fox MIPS Helmets have the same or similar technology regarding the below-identified
6 features. On further information and belief, and based on publicly available information,
7 the Fox Proframe RS helmet is representative of the Fox MIPS Helmets. On further
8 information and belief, and based on publicly available information, each of the Fox MIPS
9 Helmets functions and is structured in a manner similar, if not identical, to the Fox
10 Proframe RS helmet as it relates to infringing the '561 Patent. And on further information
11 and belief, and based on publicly available information, each of the Fox MIPS Helmets
12 possesses features and/or attributes similar, if not identical, to those features and/or
13 attributes of the Fox Proframe RS helmet identified by BrainGuard as infringing the '561
14 Patent. Accordingly, the analysis of the Fox Proframe RS helmet that follows applies
15 equally to each of the accused Fox MIPS Helmets.

16 83. The preamble of claim 10 requires: “[a] helmet.” To the extent possible that
17 the preamble of claim 10 of the '561 Patent is determined to be limiting, the Bell MIPS,
18 Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfy the preamble,
19 as seen in the figures below.

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Fig. 22.³⁶ Bell Stratus MIPS helmet.



Fig. 23.³⁷ Bell XR Spherical Helmet.

³⁶ <https://www.bellhelmets.com/bike/p/stratus-mips-road-bike-helmet/100000000300000063.html> (last visited November 26, 2024).

³⁷ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024).



Fig. 24.³⁸ Giro Syntax MIPS helmet.



Fig. 25.³⁹ Giro Aries Spherical Helmet.

³⁸ <https://www.giro.com/p/syntax-mips-road-bike-helmet/GR-7159866.html> (last visited November 26, 2024).

³⁹ <https://www.giro.com/p/aries-spherical-road-bike-helmet/100000000300000146.html> (last visited November 26, 2024).



Fig. 26.⁴⁰ Fox Proframe RS Helmet.

84. Limitation [10.a] requires “a first shell layer.” On information and belief, each of the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfies limitation [10.a]. For example, based on information and belief and as depicted in the figures below, each of the Bell Stratus MIPS, Bell XR Spherical, Giro Syntax Mips, Giro Aries Spherical, and Fox Proframe RS helmets includes a first shell layer.

⁴⁰ https://www.foxracing.com/product/proframe-rs-helmet/32497.html?dwvar_32497_color=008&dwvar_32497_size=L&gl=1*983zu4*u*p*MQ..*_ga*NzI2NDA1NDc1LjE3MzMzMzkyMjI.*_ga_M8LBEVFY1P*MTczMzMzOTIyMS4xLjAuMTczMzMzOTIyMS4wLjAuNjQ2MDYxNzI3 (last visited November 26, 2024).



Fig. 27.⁴¹ Photo of Bell Stratus MIPS helmet.



Fig. 28.⁴² Photo of Bell XR Spherical helmet.

⁴¹ See also <https://www.bellhelmets.com/bike/p/stratus-mips-road-bike-helmet/100000000300000063.html> (last visited November 26, 2024).

⁴² See also <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024).



Fig. 29.⁴³ Photo of Giro Syntax MIPS helmet.



Fig. 30.⁴⁴ Photo of Giro Aries Spherical helmet.

⁴³ See also <https://www.giro.com/p/syntax-mips-road-bike-helmet/GR-7159866.html> (last visited November 26, 2024).

⁴⁴ See also <https://www.giro.com/p/aries-spherical-road-bike-helmet/10000000030000146.html> (last visited November 26, 2024).



Fig. 26.⁴⁵ Fox Proframe RS Helmet.

85. Thus, the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfy limitation [10.a] of the '561 Patent.

86. Limitation [10.b] requires “a second shell layer connected to the first shell layer through a first energy transformer layer.” On information and belief, each of the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfies limitation [10.b].

⁴⁵ https://www.foxracing.com/product/proframe-rs-helmet/32497.html?dwvar_32497_color=008&dwvar_32497_size=L&gl=1*983zu4*u*p*MQ..*_ga*NzI2NDA1NDc1LjE3MzMzMzkyMjI.*_ga_M8LBEVFY1P*MTczMzMzOTIyMS4xLjAuMTczMzMzMzOTIyMS4wLjAuNjQ2MDYxNzI3 (last visited November 26, 2024).

1 87. For example, on information and belief, and as seen in the figures below, each
2 of the Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) includes a
3 second shell layer connected to the first shell layer through a first energy transformer layer.



Fig. 30. Photos of the Bell Stratus MIPS helmet with first shell, second shell, and first energy transformer layers labeled.

88. On information and belief, Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) equipped with MIPS Evolve technology have energy transformers (seen above as yellow elastic elements disposed between the first and second shell layers) that comprise the energy transformer layer connecting the first shell layer with the second shell layer.

1 89. As a further example, and as seen in the figure below, Bell MIPS Helmets
2 equipped with MIPS Evolve technology use “slip plane technology... designed to reduce
3 rotational forces that can result from certain impacts” and which technology allows the first
4 shell layer to slide relative to the second shell layer.



13 **Fig. 31.**⁴⁶ Photo of MIPS Evolve informational tag attached to a Bell Stratus MIPS helmet.

14 90. As a further example, on information and belief, and as seen in the figure
15 below, each of the Bell Spherical Helmets (as exemplified by the Bell XR Spherical helmet)
16 includes a second shell layer connected to the first shell layer through a first energy
17 transformer layer.

26 46 See also <https://www.bellhelmets.com/technology/mips.html> (last visited November
27 26, 2024).

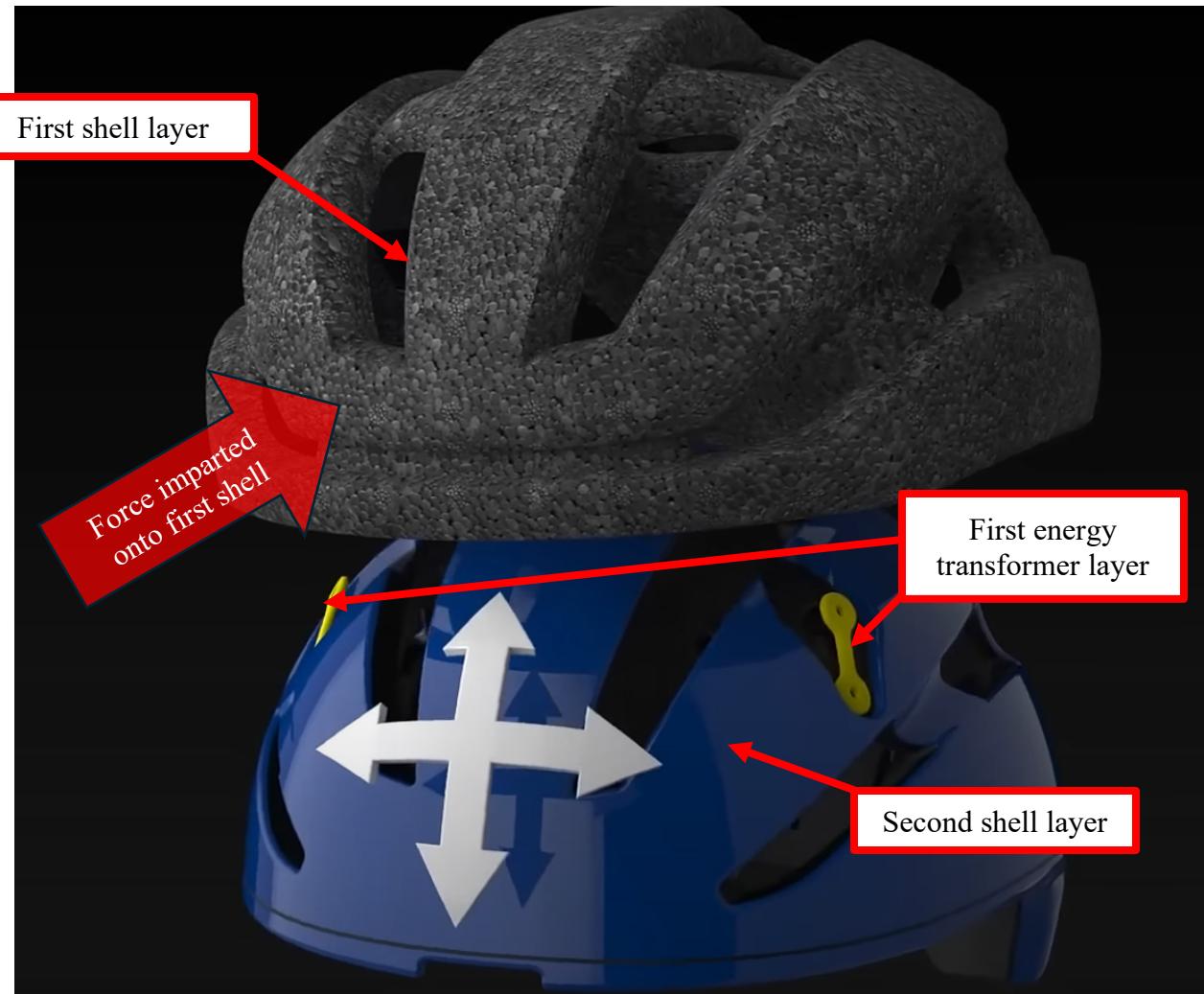
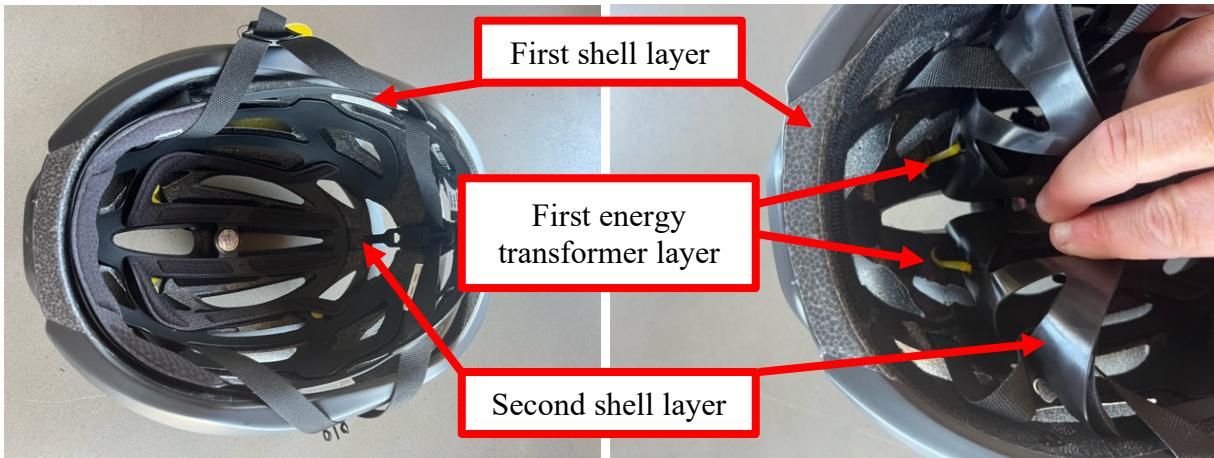


Fig. 32.⁴⁷ Screenshot of video available at the Bell XR Spherical product page with components labeled.

91. As a further example, on information and belief, and as seen in the figure below, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet) includes a second shell layer connected to the first shell layer through a first energy

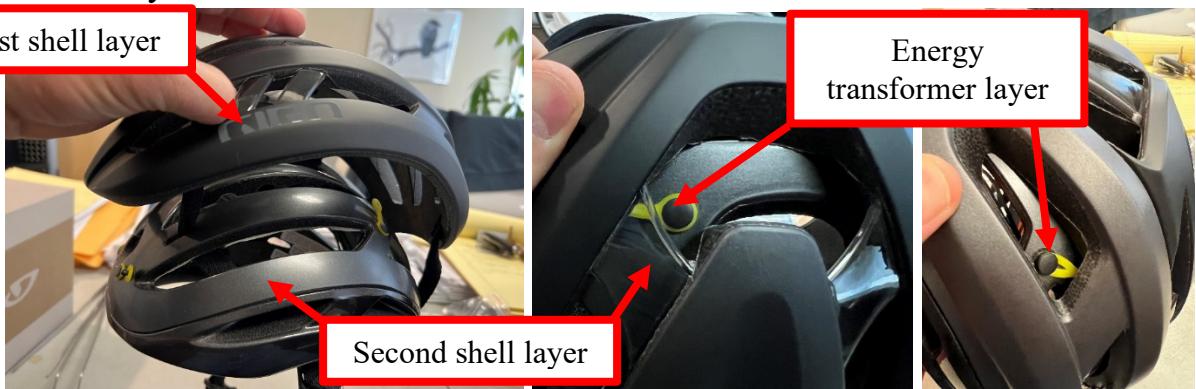
⁴⁷ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024)(emphasis added); see also <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45-1:03 (last visited November 26, 2024) (“Spherical combines two different materials: EPS and EPP to help better manage both high and low speed impacts. The Ball-and-Ssocket design powered by MIPS can help redirect impact forces away from the brain by allowing the outer liner to rotate around the inner liner during a crash.”).

1 transformer layer. On information and belief, each of the Giro MIPS Helmets includes
2 energy transformers (seen below as yellow elastic elements) that connect the first and
3 second shell layers.



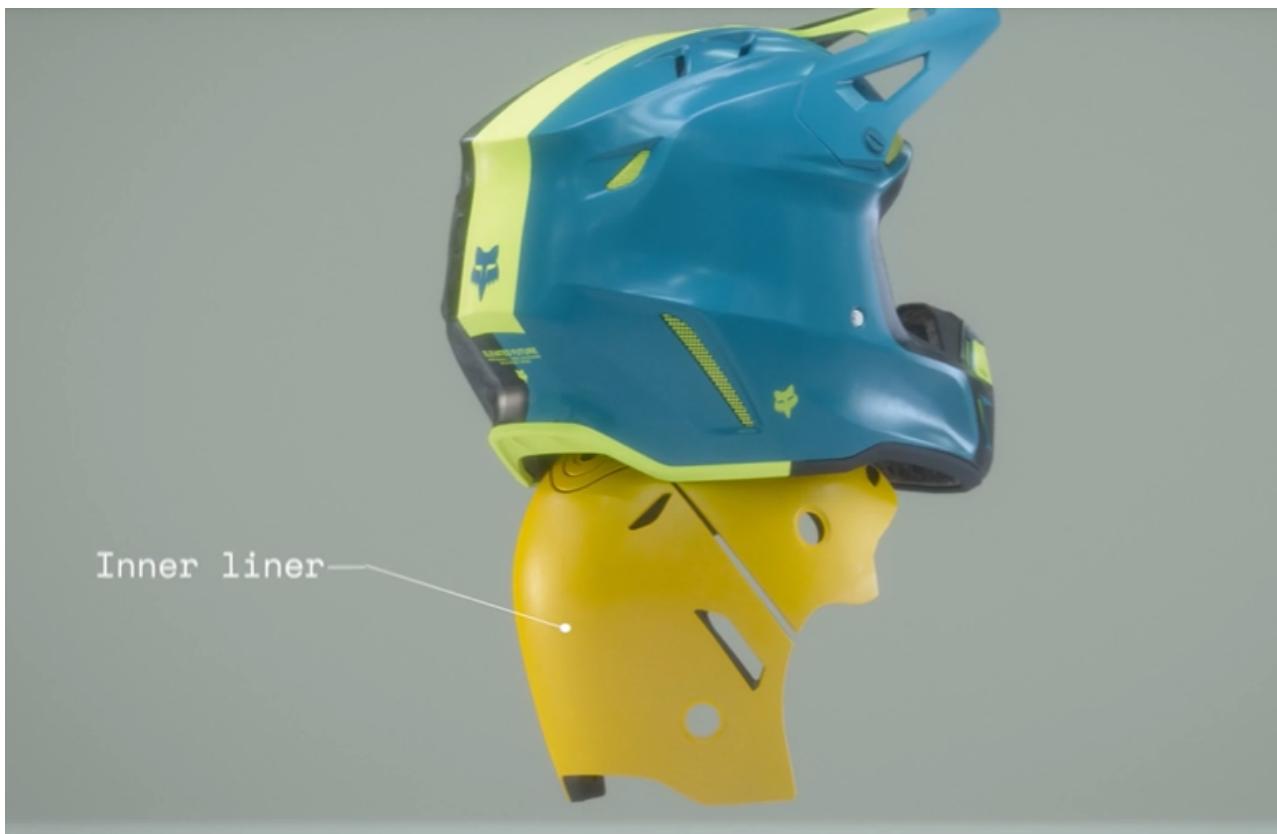
11 **Fig. 33.** Photos of the Giro Syntax Mips helmet with first shell, second shell, and first
12 energy transformer layers labeled. Note the yellow elastic elements comprising the first
13 energy transformer layer.

14 92. As a further example, on information and belief, and as seen in the figure
15 below, each of the Giro Spherical Helmets (as exemplified by the Giro Aries Spherical
16 helmet) includes a second shell layer connected to the first shell layer through a first energy
17 transformer layer. On information and belief, each of the Giro Spherical Helmets includes
18 energy transformers (seen below as yellow elastic elements) that connect the first and
19 second shell layers.



20 **Fig. 34.** Photos of Giro Aries Spherical helmet with first shell, second shell, and first
21 energy transformer layers labeled. Note the yellow elastic elements comprising the first
22 energy transformer layer.

1
2 93. As a further example, on information and belief, and as seen in the figures
3 below, each of the Fox MIPS Helmets (as exemplified by the Fox Proframe RS helmet)
4 includes a second shell layer (labeled below as “Inner liner”) connected to the first shell
5 layer through a first energy transformer layer. On information and belief, each of the Fox
6 MIPS Helmets includes energy transformers (seen below as circular yellow elastic
7 elements) that connect the first and second shell layers.



21 **Fig. 35.⁴⁸** Screenshot of MIPS Integra Split feature incorporated into Fox Proframe RS
22 helmets.

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27 ⁴⁸ <https://www.foxracing.com/mips-integra-split.html> (last visited November 26, 2024).

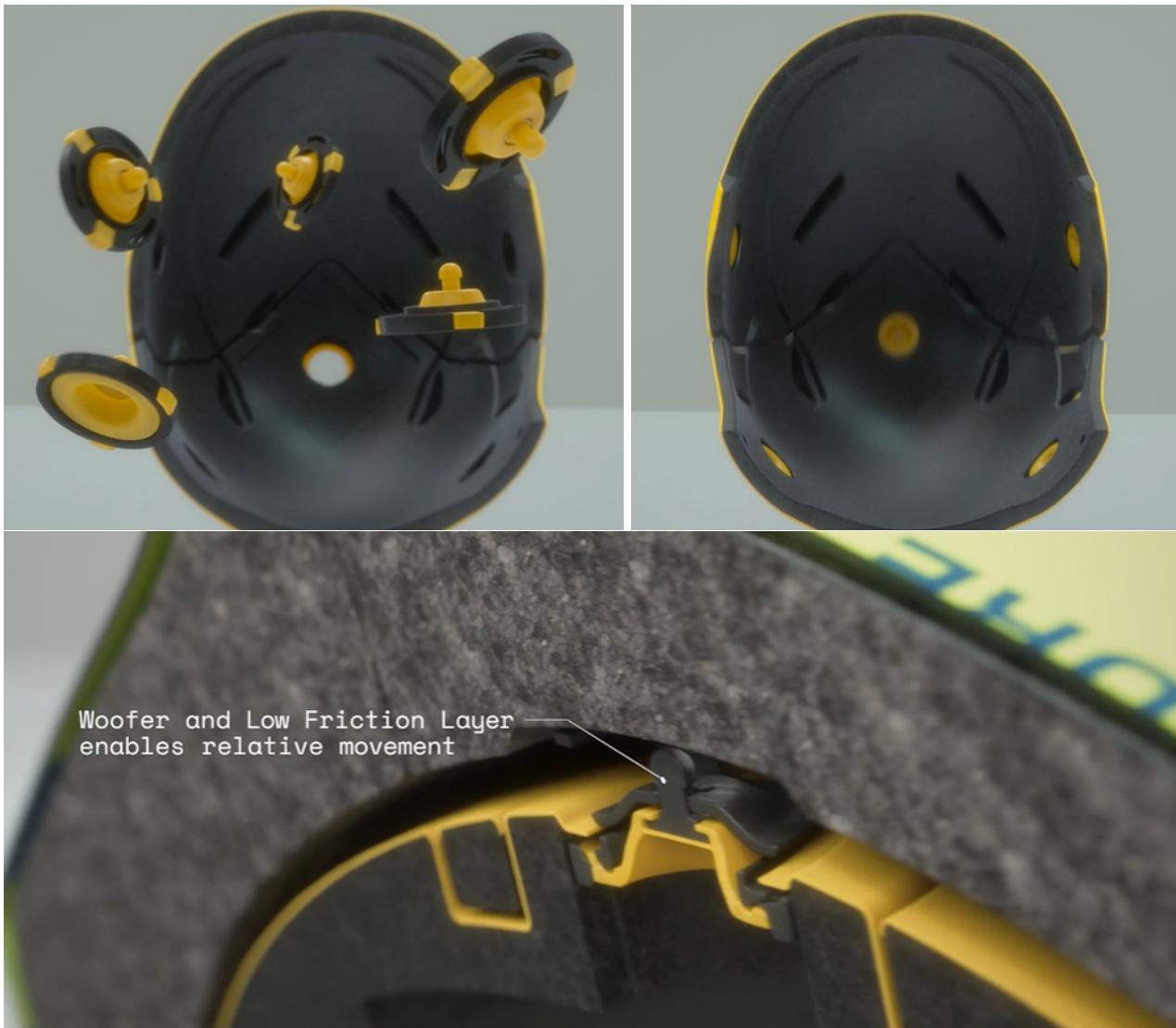


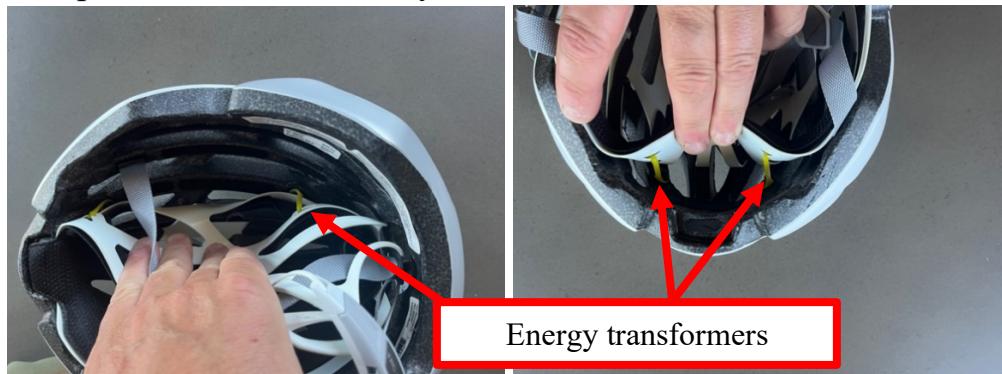
Fig. 36.⁴⁹ Screenshots from video illustrating the MIPS Integra Split feature incorporated into Fox Proframe RS helmets.

94. Thus, the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfy limitation [10.b] of the '561 Patent.

95. Limitation [10.c] requires "the first energy transformer layer operable to absorb energy from forces imparted onto the first shell layer." On information and belief, each of the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfies limitation [10.c].

27 ⁴⁹ <https://www.foxracing.com/mips-integra-split.html> (last visited November 26, 2024).

1 96. For example, on information and belief, and as seen in the figure below, each
2 of the Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) includes
3 energy transformers operable to absorb energy from forces imparted onto the first shell
4 layer. On further information and belief, the yellow elastic bands noted below stretch and
5 deform upon impact to the first shell layer.



12 **Fig. 37.** Photos of the Bell Stratus MIPS helmet.

13 97. As a further example, on information and belief, and as seen in the figure
14 below, each of the Bell Spherical Helmets (as exemplified by the Bell XR Spherical helmet)
15 includes a first energy transformer layer that absorbs energy from forces imparted on the
16 first shell layer by allowing the first shell and second shell to slide relative to one another
17 and transferring energy to the yellow elastic elements.

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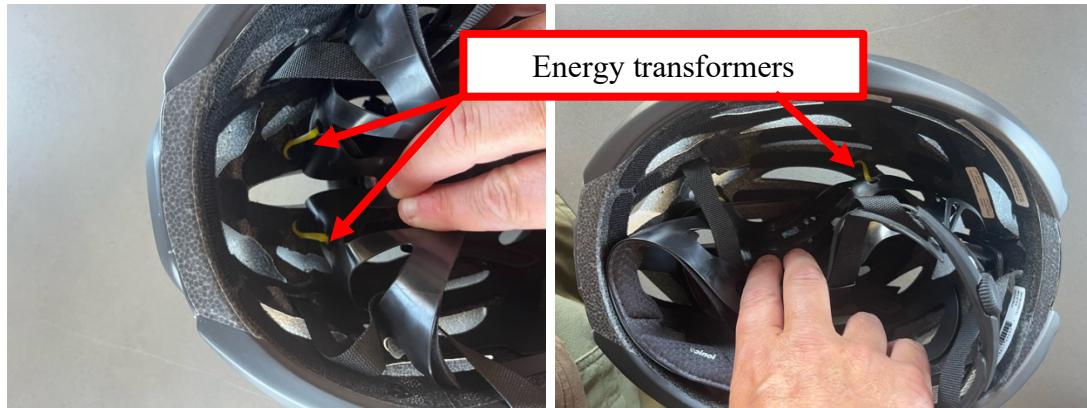


Fig. 38.⁵⁰ Screenshot of video available at the Bell XR Spherical product page with components labeled.

98. As a further example, on information and belief, and as seen in the figure below, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet) includes energy transformers operable to absorb energy from forces imparted onto the first

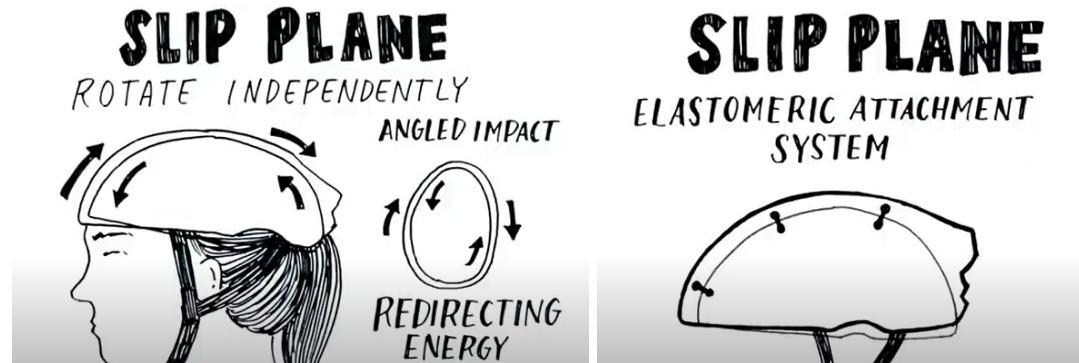
⁵⁰ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024)(emphasis added); see also <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45-1:03 (last visited November 26, 2024) (“Spherical combines two different materials: EPS and EPP to help better manage both high and low speed impacts. The Ball-and-Socket design powered by MIPS can help redirect impact forces away from the brain by allowing the outer liner to rotate around the inner liner during a crash.”).

1 shell layer. On information and belief, the yellow elastic bands noted below stretch and
2 deform upon impact to the first shell layer.



9 **Fig. 39.** Photos of the Giro Syntax MIPS MIPS helmet.

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11 99. As a further example, on information and belief, and as seen in the figure
12 below, Defendants advertise “slip plane” technology to highlight the dangers of certain
13 types of impacts and the ability of Giro MIPS Helmets to mitigate such dangers by
14 “reducing the amount of rotational force that may otherwise be transferred to your brain”
15 during impact.⁵¹

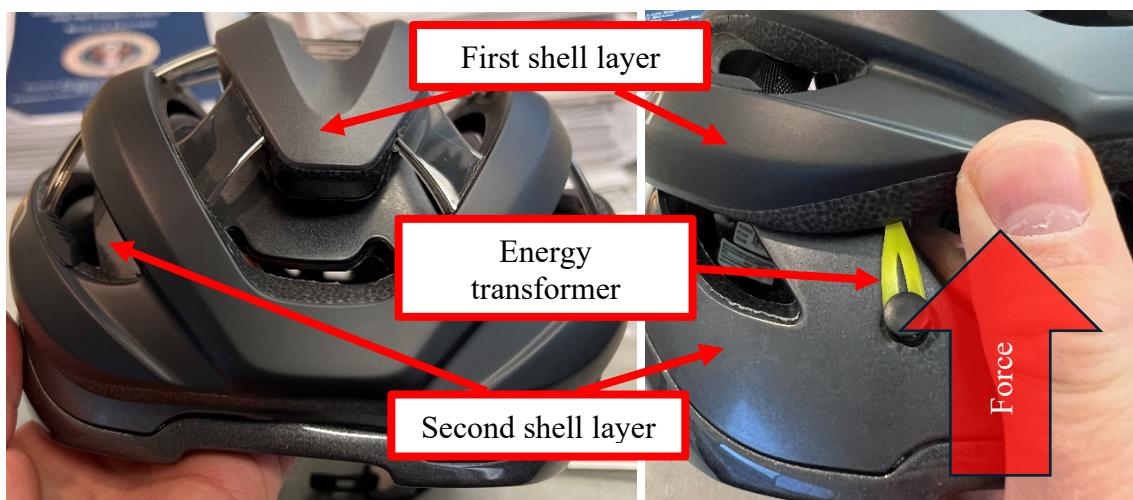


21 **Fig. 40.**⁵² Screenshots of video illustrating Giro “slip plane” technology.

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24 ⁵¹ See, e.g., Giro Sport Design, “Mechanics of a Crash,”
<https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024).

25 ⁵² Giro Sport Design, “Mechanics of a Crash” at 1:06 and 2:03,
<https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024)
26 (“An elastomeric attachment system stretches on impact allowing the helmet liner to
27 move. How much does it move? Just a couple millimeters. But those few millimeters of

100. As a further example, on information and belief, and as seen in the figure
2 below, each of the Giro Spherical Helmets (as exemplified by the Giro Aries Spherical
3 helmet) includes energy transformers operable to absorb energy from forces imparted onto
4 the first shell layer. On information and belief, the yellow elastic bands noted below stretch
5 and deform upon impact to the first shell layer. Note the force exerted by the thumb against
6 the first shell layer.



15 **Fig. 41.** Photos of testing a Giro Aries Spherical helmet. In this example, force is being
16 applied to the first shell layer by a thumb in the direction of the red arrow.

17 101. As a further example, on information and belief, and as seen in the figure
18 below, each of the Fox MIPS Helmets (as exemplified by the Fox Proframe RS helmet)
19 includes energy transformers operable to absorb energy from forces imparted onto the first
20 shell layer. On information and belief, the circular yellow elements depicted below stretch
21 and deform upon impact to the first shell layer.

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26 rotation during that crucial two milliseconds can reduce the amount of rotational force
27 that may otherwise be transferred to your brain.”).



Fig. 42.⁵³ Screenshot of MIPS Integra Split feature incorporated into Fox Proframe RS helmets.

102. Thus, the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfy limitation [10.c] of the '561 Patent.

103. Limitation [10.d] requires "wherein the first energy transformer layer includes a first absorptive/dissipative material to allow the first shell layer to slide relative to the second shell layer." On information and belief, each of the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfies limitation [10.d].

104. For example, on information and belief, and as seen in the figure below, each of the Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) includes energy transformers that are made of an elastomeric material which is an absorptive/dissipative material. On further information and belief, the energy transformers comprise a layer that allows the first shell layer to slide relative to the second shell layer.

⁵³ <https://www.foxracing.com/mips-integra-split.html> (last visited November 26, 2024).

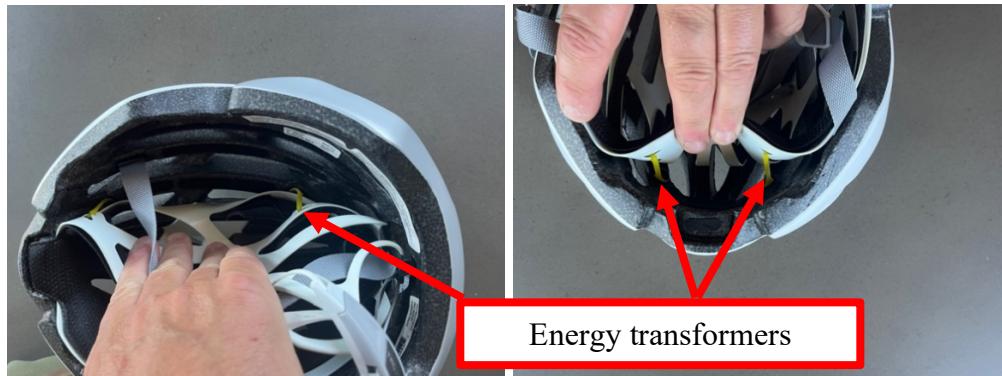


Fig. 43. Photos of the Bell Stratus MIPS helmet.

105. As a further example, and as seen in the figure below, Bell MIPS Helmets equipped with MIPS Evolve technology use “slip plane technology... designed to reduce rotational forces that can result from certain impacts” and which technology allows the first shell layer to slide relative to the second shell layer.



Fig. 44.⁵⁴ Photo of MIPS Evolve informational tag attached to a Bell Stratus MIPS helmet.

106. As a further example, on information and belief, and as seen in the figure below, each of the Bell Spherical Helmets (as exemplified by the Bell XR Spherical helmet) includes energy transformers that are made of an elastomeric material which is an absorptive/dissipative material. On further information and belief, the energy transformers

54 See also <https://www.bellhelmets.com/technology/mips.html> (last visited November 26, 2024).

1 comprise a layer that allows the first shell layer to slide relative to the second shell layer.
2 Indeed, Defendants promote the “Ball-and-Socket” design feature which “helps to redirect
3 impact forces away from the brain by allowing the outer liner to rotate around the inner
4 liner during a crash.”



Fig. 45.⁵⁵ Screenshot of Bell Helmet Spherical Technology webpage.

107. As a further example, on information and belief, and as seen in the figure
14 below, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet)
15 includes energy transformers that are comprised of absorptive/dissipative material to allow
16 the first shell layer to slide relative to the second shell layer.

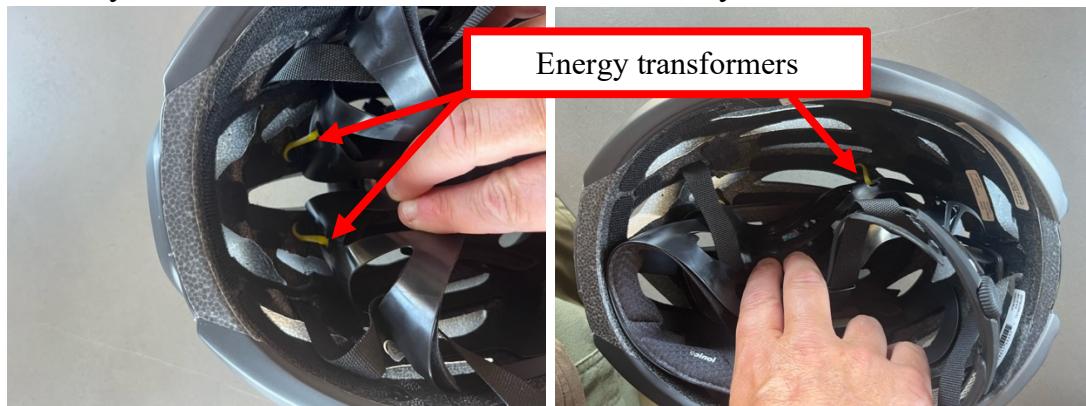
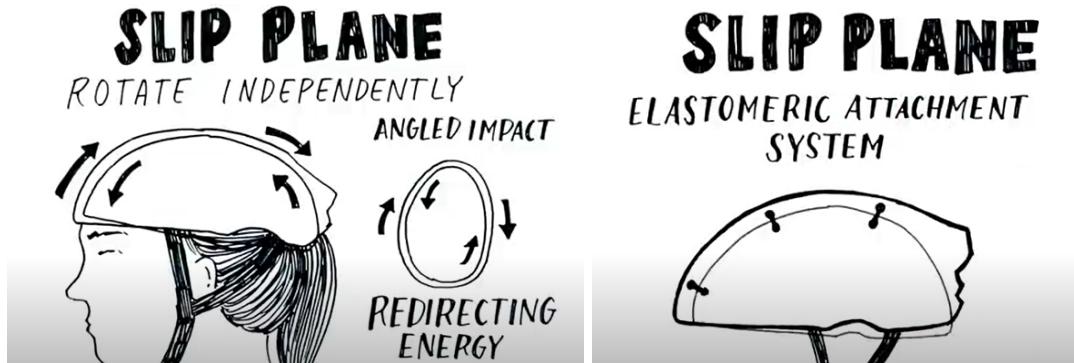


Fig. 46. Photos of the Giro Syntax Mips MIPS helmet.

⁵⁵ <https://www.bellhelmets.com/technology/spherical.html> (last visited November 26, 2024).

1 108. As a further example, on information and belief, and as seen in the figure
2 below, Defendants advertise “slip plane” technology to highlight the dangers of certain
3 types of impacts and the ability of Giro MIPS Helmets to mitigate such dangers by
4 “reducing the amount of rotational force that may otherwise be transferred to your brain”
5 during impact.⁵⁶



12 **Fig. 47**⁵⁷ Screenshots from a Giro Sport Design video.
13

14 109. As a further example, on information and belief, and as seen in the figure
15 below, each of the Giro Spherical Helmets (as exemplified by the Giro Aries Spherical
16 helmet) includes energy transformers that are comprised of absorptive/dissipative material
17 to allow the first shell layer to slide relative to the second shell layer.
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22 ⁵⁶ See, e.g., Giro Sport Design, “Mechanics of a Crash,”
23 <https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024).

24 ⁵⁷ Giro Sport Design, “Mechanics of a Crash” at 1:06 and 2:03,
25 <https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024)
26 (“An elastomeric attachment system stretches on impact allowing the helmet liner to
27 move. How much does it move? Just a couple millimeters. But those few millimeters of
rotation during that crucial two milliseconds can reduce the amount of rotational force
that may otherwise be transferred to your brain.”).



Fig. 48. Photos of the Giro Aries Spherical helmet. Note the yellow elastomeric energy transformer.

110. As a further example, on information and belief, and as seen in the figure below, Defendants advertise “Ball-and-Socket” technology in connection with their Spherical helmet products.

BALL-AND-SOCKET DESIGN

Spherical Technology's Ball-and-Socket design, powered by MIPS®, helps redirect impact forces away from the brain by allowing the outer liner to rotate around the inner liner during a crash. It also eliminates contact with hard plastic or slip-planes against the skin.

Fig. 49.⁵⁸ Excerpt from Giro's Spherical Technology webpage.

111. As a further example, on information and belief, and as seen in the figure below, each of the Fox MIPS Helmets (as exemplified by the Fox Proframe RS helmet) includes energy transformers that are comprised of absorptive/dissipative material to allow the first shell layer to slide relative to the second shell layer.

⁵⁸ <https://www.giro.com/technology/spherical.html> (last visited November 26, 2024).

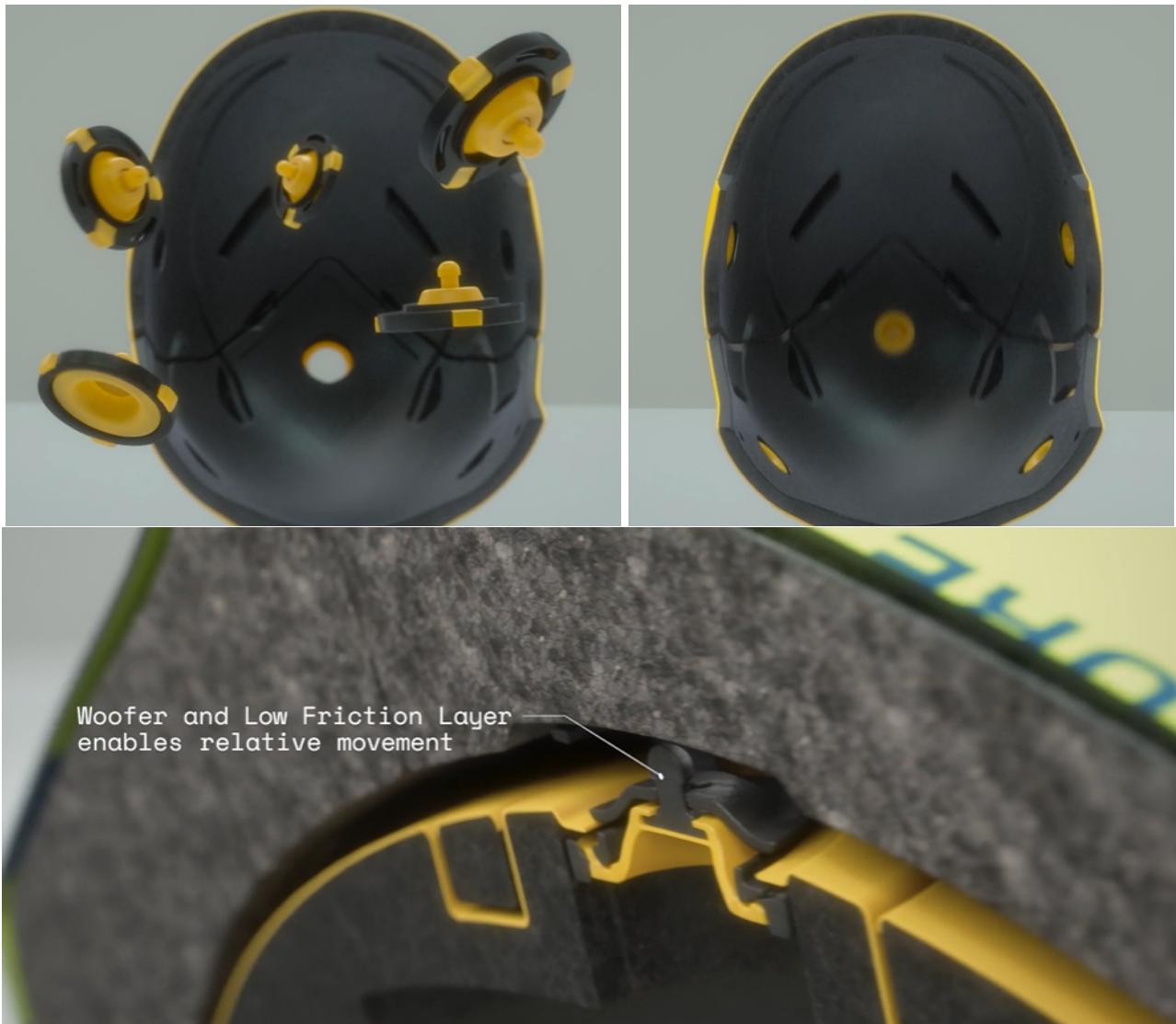


Fig. 50.⁵⁹ Screenshots of MIPS Integra Split feature incorporated into Fox Proframe RS helmets.

112. Thus, the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfy limitation [10.d] of the '561 Patent.

113. Limitation [10.e] requires “a lining layer connected to the second shell layer, wherein the lining layer is configured to conform to a human head.” On information and belief, each of the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfies limitation [10.e].

27 ⁵⁹ <https://www.foxracing.com/mips-integra-split.html> (last visited November 26, 2024).

1 114. For example, on information and belief, and as seen in the figure below, each
2 of the Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) includes a
3 lining layer connected to the second shell layer that is configured to contact a human head
4 when worn.



16 **Fig. 51.** Photo of a Bell Stratus MIPS helmet.

17 115. As a further example, on information and belief, and as seen in the figure
18 below, each of the Bell Spherical Helmets (as exemplified by the Bell XR Spherical helmet)
19 includes a lining layer connected to the second shell layer that is configured to contact a
20 human head when worn.



Fig. 52.⁶⁰ Screenshot from the Bike Rumor! review article regarding the Bell XR Spherical helmet.

116. As a further example, on information and belief, and as seen in the figure below, Defendants also promote a featured specialized lining layers present in Bell Spherical Helmets.

⁶⁰ <https://bikerumor.com/review-bell-xr-spherical-gravel-adventure-helmet/> (last visited November 26, 2024).

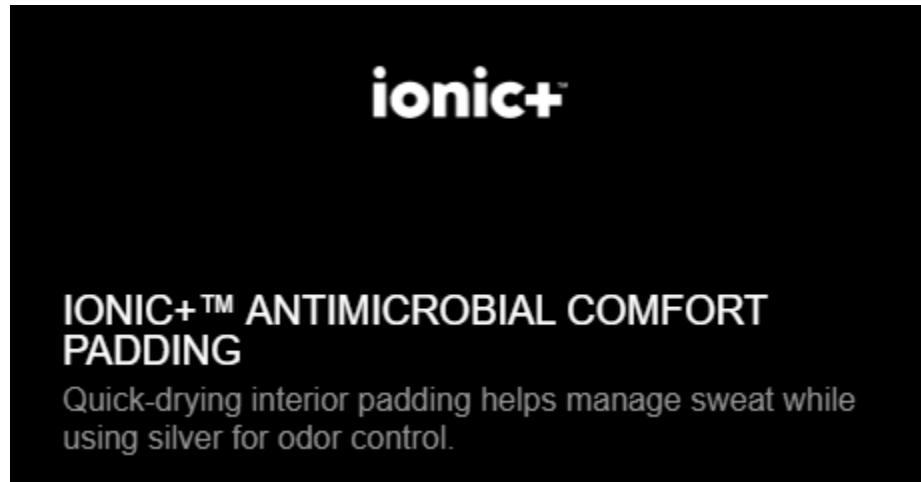


Fig. 53.⁶¹ Excerpt from Bell XR Spherical helmet product webpage.

117. As a further example, on information and belief, and as seen in the figure below, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet) includes a lining layer connected to the second shell layer that is configured to contact a human head when worn.

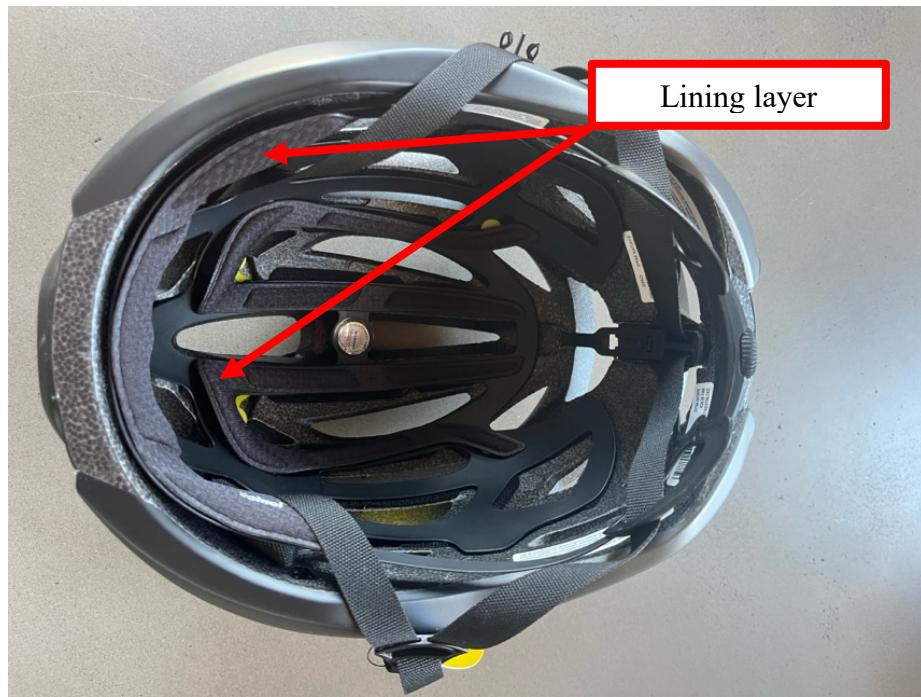


Fig. 54. Photo of a Giro Syntax Mips helmet.

⁶¹ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/10000000030000135.html> (last visited November 26, 2024).

118. As a further example, on information and belief, and as seen in the figure
2 below, each of the Giro Spherical Helmets (as exemplified by the Giro Aries Spherical
3 helmet) includes a lining layer connected to the second shell layer that is configured to
4 contact a human head when worn.



16 **Fig. 55.** Photo of a Giro Aries Spherical helmet.

17
18 119. As a further example, on information and belief, and as seen in the figures
19 below, each of the Fox MIPS Helmets (as exemplified by the Fox Proframe RS helmet)
20 includes a lining layer connected to the second shell layer that is configured to contact a
21 human head when worn.

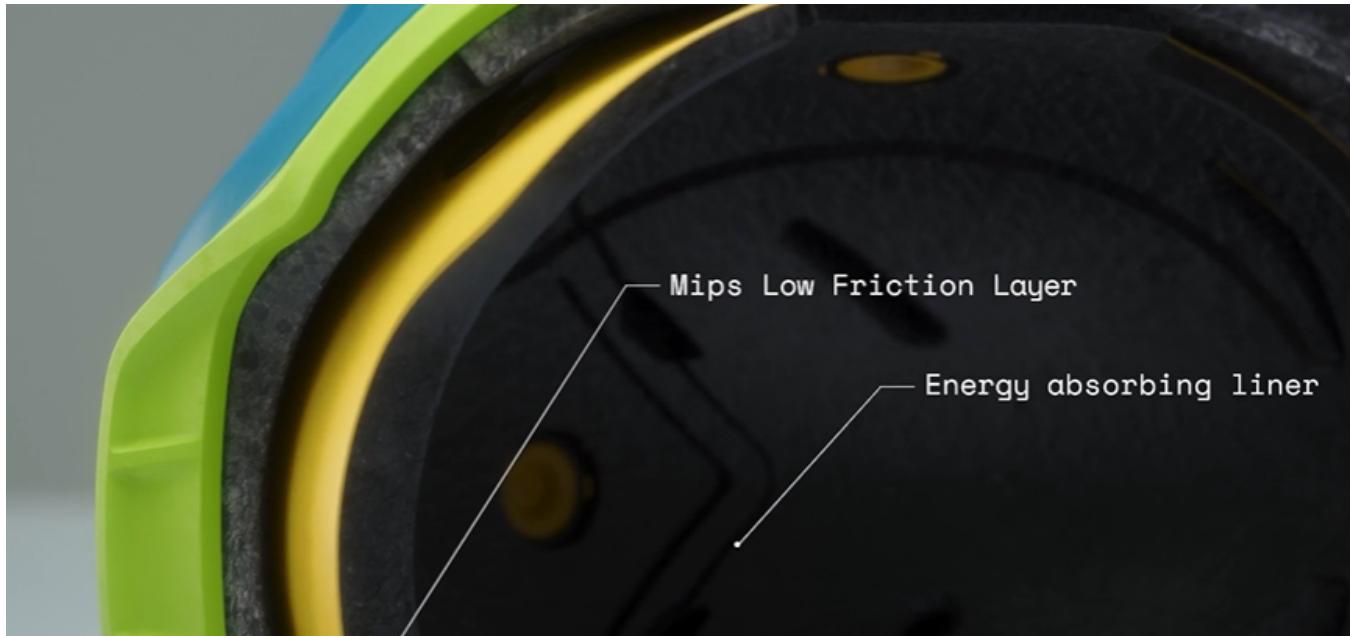


Fig. 56.⁶² Screenshot of MIPS Integra Split feature incorporated into Fox Proframe RS helmets.

Specifications

- BOA® Fit System for class-leading fit and security
- Equipped with Mips® Integra Split low friction layer
- Dual density foam for high and low speed impacts
- 3-position adjustable visor compatible with goggles
- Removable under-visor GoPro mount included
- Increased ventilation and decreased surface contact area for improve cooling
- Ionic+ anti-microbial liner to reduce odor
- Multi-sized cheek pads to optimize fit
- FIDLOCK magnetic closure system on chin strap
- Weight: 820 g (size medium)

Fig. 57.⁶³ List of specifications relating to the Fox Proframe RS helmet.

⁶² <https://www.foxracing.com/mips-integra-split.html> (last visited November 26, 2024).

⁶³ https://www.foxracing.com/product/proframe-rs-helmet/32497.html?dwvar_32497_color=008&dwvar_32497_size=L&_gl=1*983zu4*_u_p*MQ..*_ga*NzI2NDA1NDc1LjE3MzMzMzkyMjI.*_ga_M8LBEVFY1P*MTczMzMz

120. Thus, the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfy limitation [10.e] of the '561 Patent.

121. Therefore, each of the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and Fox MIPS Helmets satisfies each and every limitation of claim 10 of the '561 Patent, and therefore infringes at least claim 10 of the '561 Patent.

122. At least as of the date of filing of the instant suit, Defendants have had knowledge of their infringement of the '561 Patent. Accordingly, and to the extent that Defendants continue to make, use, sell, offer to sell, and/or import any of the Bell MIPS, Bell Spherical, Giro MIPS, Giro Spherical, and/or Fox MIPS Helmets, Defendants' infringement of the '561 Patent in violation of 35 U.S.C. §§ 271 et seq. as detailed above, following the filing of the instant suit, is and continues to be willful.

123. As a result of Defendants' infringement of the '561 Patent, BrainGuard has suffered and continues to suffer substantial injury and is entitled to recover all damages caused by Defendants' infringement to the fullest extent permitted by the Patent Act, together with prejudgment interest and costs for Defendants' wrongful conduct.

THIRD CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE
'536 PATENT BY DEFENDANTS)

124. BrainGuard re-alleges and incorporates by reference all of the foregoing paragraphs.

125. On information and belief, Defendants have directly infringed and continue to directly infringe either literally or under the doctrine of equivalents, one or more claims, including at least claim 1 of the '536 Patent in violation of 35 U.S.C. § 271, et seq., by making, using, offering to sell, selling, and/or importing at least the Bell Spherical and Giro Spherical Helmets.

[OTIyMS4xLjAuMTczMzMzOTIyMS4wLjAuNjQ2MDYxNzI3](https://www.ontimeinternational.com/MS4xLjAuMTczMzMzOTIyMS4wLjAuNjQ2MDYxNzI3) (last visited November 26, 2024).

126. Claim 1 of the '536 Patent provides:

2 [1.preamble] Protective gear comprising:

3 [1.a] a first layer;

4 [1.b] a second layer connected to a[] first layer through a first energy
5 transformer,

6 [1.c] the first energy transformer operable to absorb energy from forces
7 imparted onto the first layer,

8 [1.d] wherein the first energy transformer includes a first
9 absorptive/dissipative material to allow the first layer to slide relative to the
10 second layer;

11 [1.e] a[] third layer connected to the second layer through a second energy
12 transformer,

13 [1.f] the second energy transformer including a second absorptive/dissipative
14 material,

15 [1.g] the second energy transformer operable to absorb energy from forces
16 imparted onto the second layer through the first layer and the first energy
17 transformer.

18 127. On information and belief, and based on publicly available information, all
19 Bell Spherical Helmets have the same or similar technology regarding the below-identified
20 features. On further information and belief, and based on publicly available information,
21 the Bell XR Spherical helmet is representative of the Bell Spherical Helmets. On further
22 information and belief, and based on publicly available information, each of the Bell
23 Spherical Helmets functions and is structured in a manner similar, if not identical, to the
24 Bell XR Spherical helmet as it relates to infringing the '536 Patent. And on further
25 information and belief, and based on publicly available information, each of the Bell
26 Spherical Helmets possesses features and/or attributes similar, if not identical, to those

1 features and/or attributes of the Bell XR Spherical helmet identified by BrainGuard as
2 infringing the '536 Patent. Accordingly, the analysis of the Bell XR Spherical helmet that
3 follows applies equally to each of the accused Bell Spherical Helmets.

4 128. On information and belief, and based on publicly available information, all
5 Giro Spherical Helmets have the same or similar technology regarding the below-identified
6 features. On further information and belief, and based on publicly available information,
7 the Giro Aries Spherical helmet is representative of the Giro Spherical Helmets. On further
8 information and belief, and based on publicly available information, each of the Giro
9 Spherical Helmets functions and is structured in a manner similar, if not identical, to the
10 Giro Aries Spherical helmet as it relates to infringing the '536 Patent. And on further
11 information and belief, and based on publicly available information, each of the Giro
12 Spherical Helmets possesses features and/or attributes similar, if not identical, to those
13 features and/or attributes of the Giro Aries Spherical helmet identified by BrainGuard as
14 infringing the '536 Patent. Accordingly, the analysis of the Giro Aries Spherical helmet
15 that follows applies equally to each of the accused Giro Spherical Helmets.

16 129. The preamble of claim 1 requires: “[p]rotective gear.” To the extent possible
17 that the preamble of claim 1 of the '536 Patent is determined to be limiting, the Bell
18 Spherical and Giro Spherical Helmets satisfy the preamble, as such helmets are protective
19 gear.

20 130. Limitation [1.a] requires “a first layer.” On information and belief, each of the
21 Bell Spherical and Giro Spherical Helmets satisfies limitation [1.a]. As seen in the figures
22 below, the Bell Spherical and Giro Spherical Helmets are comprised of multiple layers.

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Fig. 58.⁶⁴ Screenshot of video available at the Bell XR Spherical product page. Note the multiple layers comprising the Bell XR Spherical helmet.

⁶⁴ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024); *see also* <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:44s (last visited November 26, 2024).



PROGRESSIVE LAYERING™

Giro helmets with Progressive Layering™ use two different density EPS foam liners to address high- and low-speed impacts for more comprehensive energy management.

Fig. 59.⁶⁵ Screenshot of one of the advertised features of the Giro Aries Spherical helmet noting that the helmet incorporates multiple layers.

131. As further seen in the figures below, each of the Bell Spherical and Giro Spherical Helmets incorporates a first layer.

⁶⁵ <https://www.giro.com/p/aries-spherical-road-bike-helmet/100000000300000146.html> (last visited November 26, 2024).



Fig. 60.⁶⁶ Screenshot of video available at the Bell XR Spherical product page. Note the gray topmost layer satisfying the required “first layer” limitation of claim 1.

⁶⁶ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024) (emphasis added); *see also* <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45s (last visited November 26, 2024).



Fig. 61. Photo of a Giro Aries Spherical helmet.

132. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [1.a] of the '536 Patent.

133. Limitation [1.b] requires “a second layer connected to a[] first layer through a first energy transformer.” On information and belief, each of the Bell Spherical and Giro Spherical Helmets satisfies limitation [1.b].

134. For example, the Bell XR Spherical helmet, as seen in the figure below, satisfies limitation [1.b]. The Bell XR Spherical helmet, as previously discussed, incorporates a “first layer” (the gray component in the figure below). Further, the Bell XR Spherical helmet incorporates a “second layer” (the blue component in the figure below). Lastly, the Bell XR Spherical helmet incorporates a “first energy transformer” connecting the first and second layers, which is comprised of the low-friction elastic band interface

1 (the yellow elastic elements in the figure below) between the shells that allows them to
2 rotate relative to one another during impact.



19 **Fig. 62.⁶⁷** Screenshot of video available at the Bell XR Spherical product page.

20 135. As a further example, the figure below demonstrates the Bell XR Spherical
21 helmet as commercially sold, with the first and second layers and energy transformers
22 visible.

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25 ⁶⁷ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024)(emphasis added);
26 see also <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45s (last visited
27 November 26, 2024).

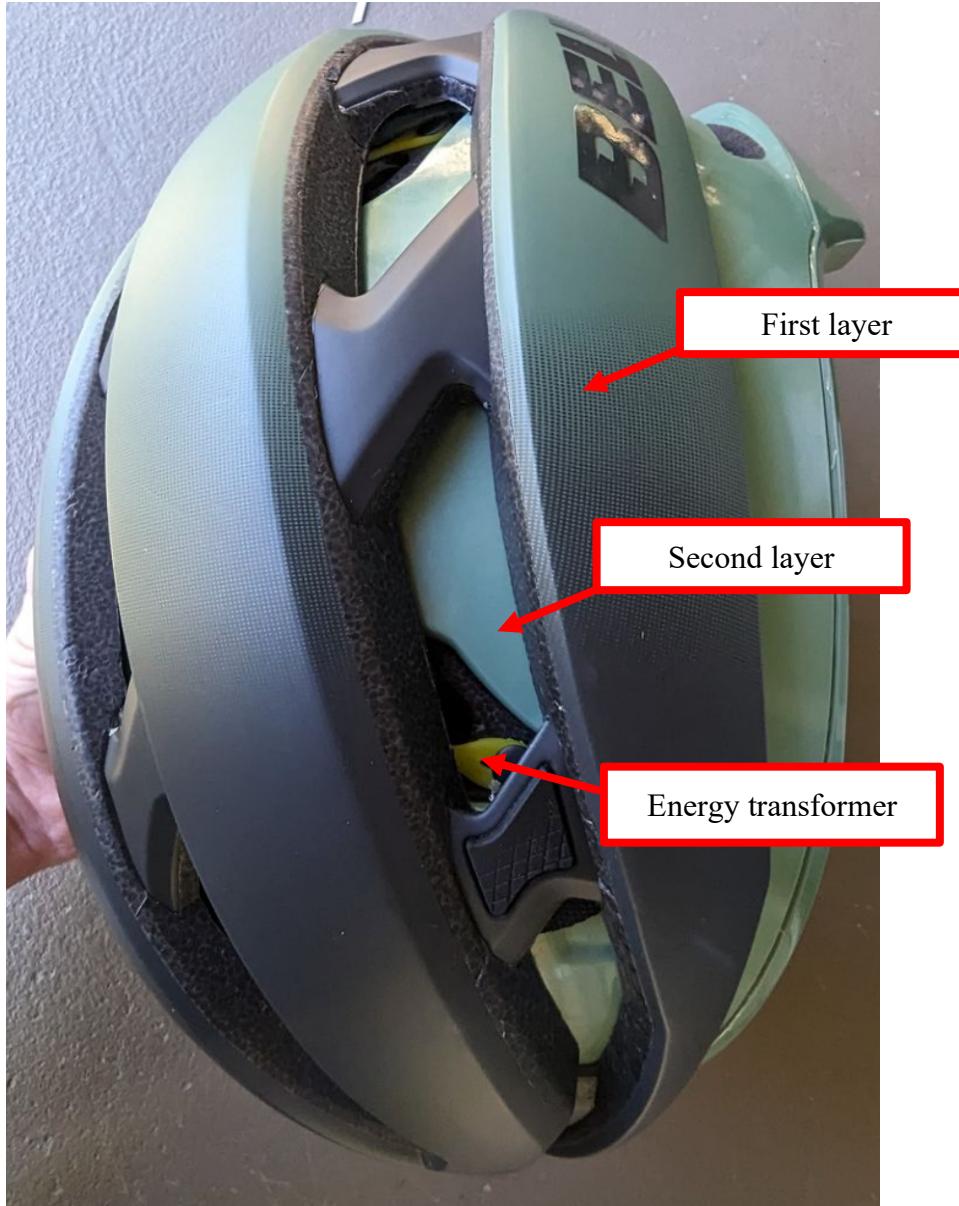


Fig. 63. Photo of Bell XR Spherical helmet with first and second layers and energy transformer marked.

136. As a further example, the Giro Aries Spherical Helmet also satisfies limitation [1.b]. As seen and marked in the figure below, the Giro Aries Spherical helmet incorporates a “first layer.” Further, as seen and marked in the figure below, the Giro Aries Spherical helmet incorporates a “second layer.” Lastly, the Giro Aries Spherical helmet incorporates “energy transformers” connecting the outer and middle layers, which is comprised of the

1 low-friction elastic band interface (the yellow elastic elements in the figure below) between
2 the first and second layers that allows them to rotate relative to one another during impact.

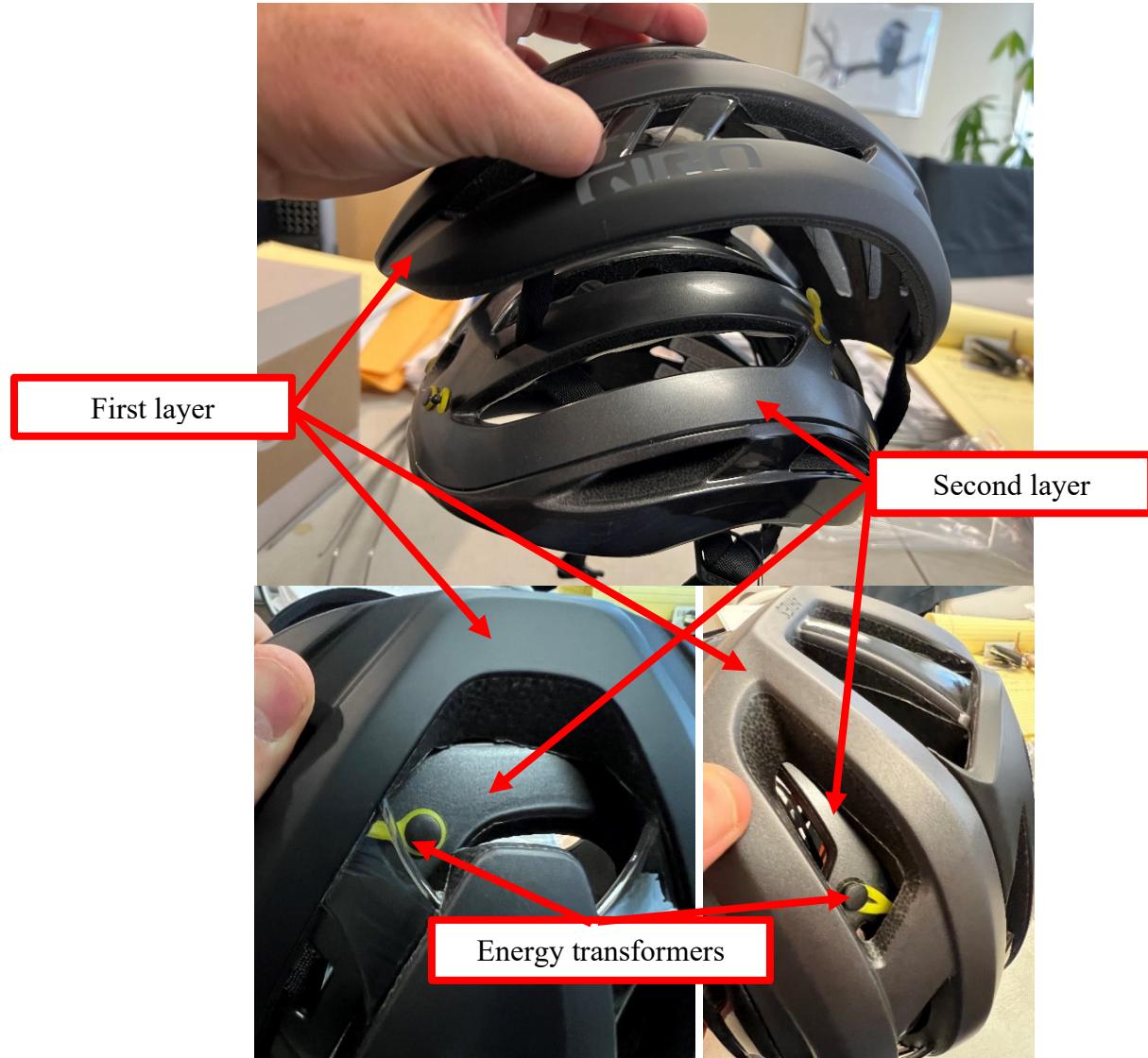
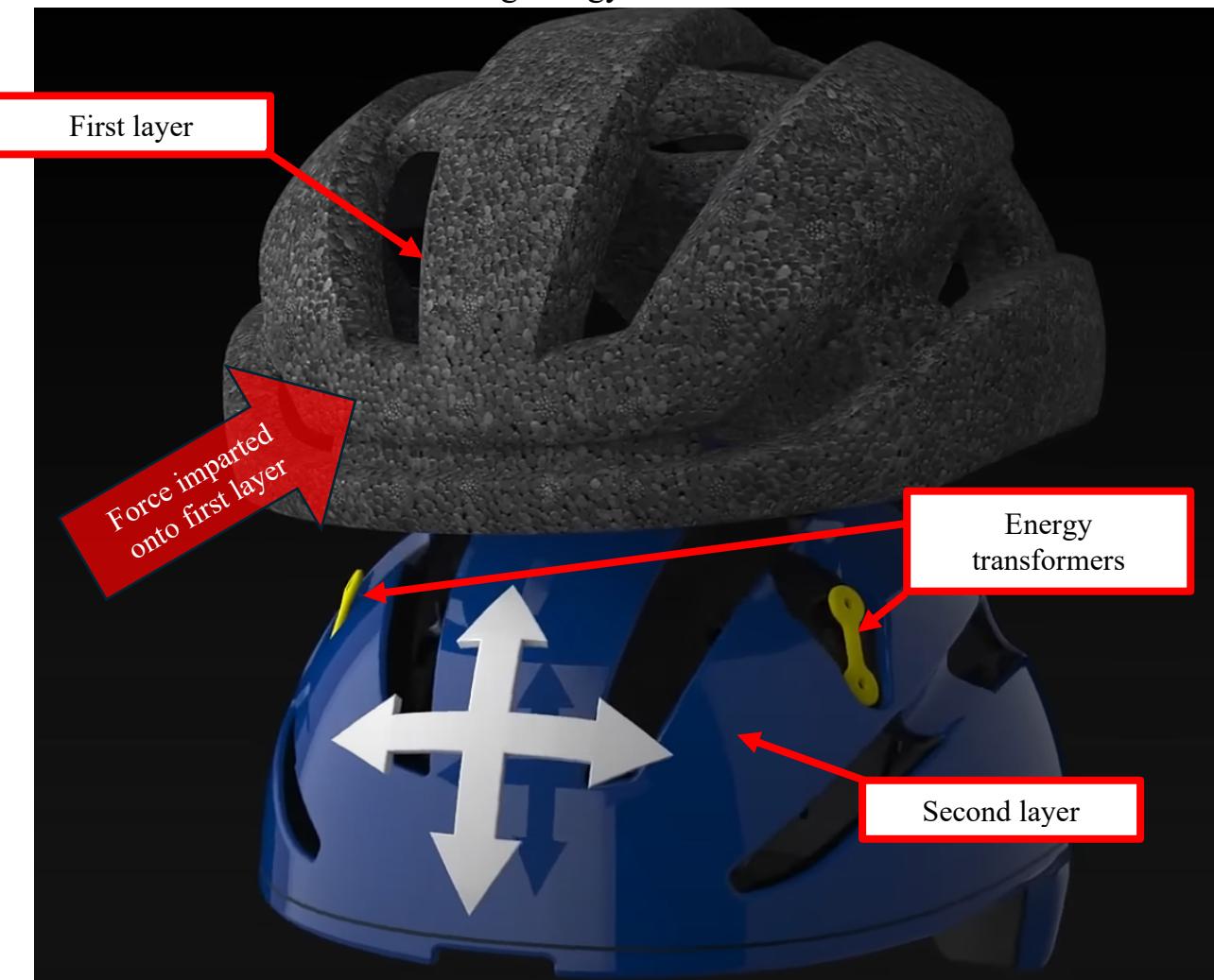


Fig. 64. Photos of the Giro Aries Spherical helmet with first and second layers and energy transformers marked.

137. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [1.b] of the '536 Patent.

138. Limitation [1.c] requires “the first energy transformer operable to absorb energy from forces imparted onto the first layer.” On information and belief, each of the Bell Spherical and Giro Spherical Helmets satisfies limitation [1.c].

1 139. For example, the Bell XR Spherical helmet, as seen in the figure below,
2 satisfies limitation [1.c]. On information and belief, the first energy transformers (the
3 yellow elastic elements) absorb energy from forces imparted on the first layer (e.g., the
4 large red arrow indicating a frontal impact) by allowing the first and second layers to slide
5 relative to each other and transferring energy to the elastic bands.



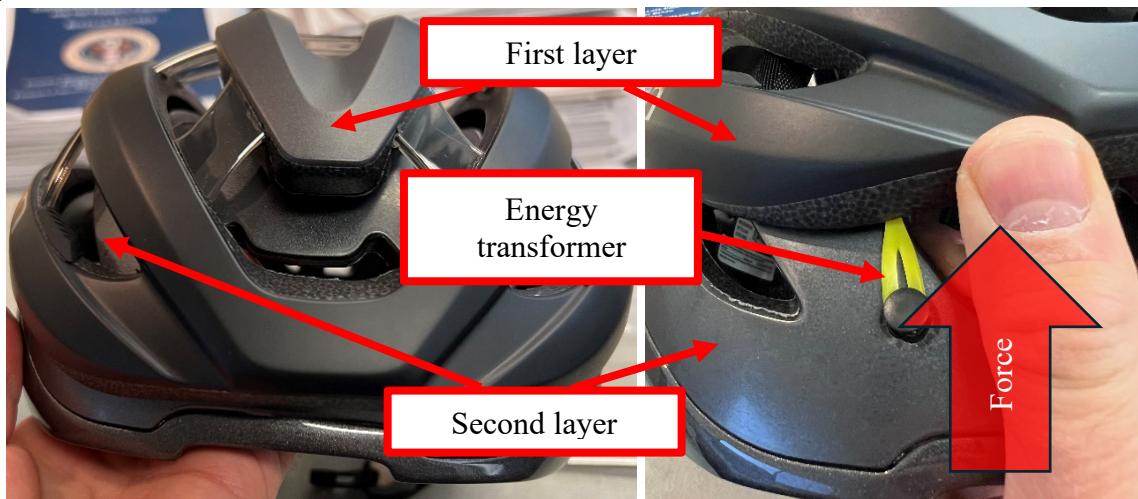
22 **Fig. 65.**⁶⁸ Screenshot of video available at the Bell XR Spherical product page with
23 components labeled.

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25 ⁶⁸ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024)(emphasis added);
26 see also <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45-1:03 (last visited
27 November 26, 2024).

1 140. On further information and belief, Defendants advertise that “Spherical
2 combines two different materials—EPS and EPP—to better manage both high and low
3 speed impacts. The Ball-and-Socket design powered by MIPS can help redirect impact
4 forces away from the brain by allowing the outer liner to rotate around the inner liner during
5 a crash.”⁶⁹

6 141. On further information and belief, the Giro Aries Spherical helmet also
7 satisfies limitation [1.c]. The figure below demonstrates that the energy transformer (the
8 yellow elastic element) allows the first and second layers to slide relative to one another
9 when a force is imparted on the first layer. Testing by BrainGuard of the commercially-
10 available Giro Aries Spherical helmet confirmed that applying a force on the first layer of
11 a Giro Aries Spherical helmet allowed the energy transformer to absorb energy from a
12 mechanical force imparted onto the first layer (here, applied via pressure from a user’s
13 thumb).



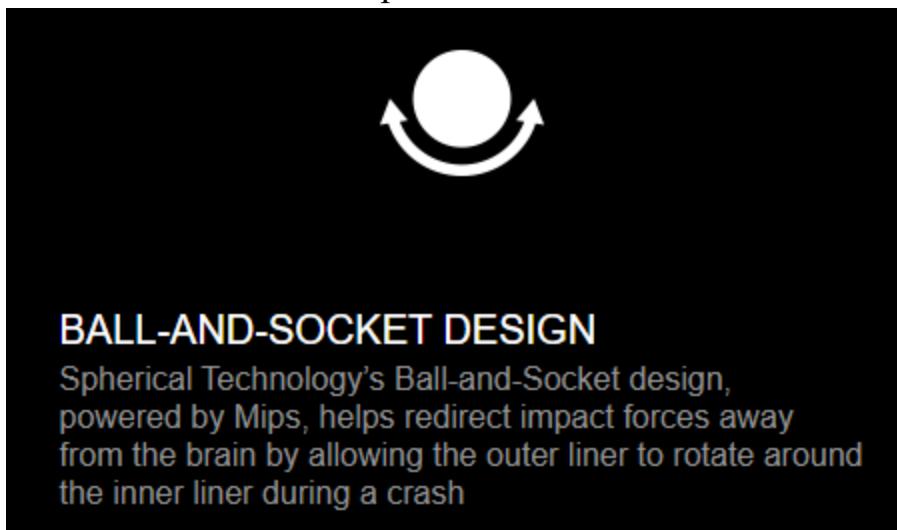
21 **Fig. 66.** Photos of testing a Giro Aries Spherical helmet. In this example, force is applied
22 to the first layer by a thumb in the direction of the red arrow.

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25 ⁶⁹ <https://www.bellhelmets.com/bike/road-and-gravel/p/xr-spherical-road-bike-helmet/100000000300000135.html> (last visited November 26, 2024); *see also*
26 <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45-1:03 (last visited November
27 26, 2024).

1 142. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [1.c]
2 of the '319 Patent.

3 143. Limitation [1.d] requires "wherein the first energy transformer includes a first
4 absorptive/dissipative material to allow the first layer to slide relative to the second layer."
5 On information and belief, each of the Bell Spherical and Giro Spherical Helmets satisfies
6 limitation [1.d]. On further information and belief, the energy transformers in the Bell
7 Spherical and Giro Spherical are comprised of an elastomeric (i.e., absorptive/dissipative)
8 material. As previously discussed in connection with at least limitation [1.c] herein, each
9 of the Bell Spherical and Giro Spherical Helmets allows the first and second layers to slide
10 relative to each other during impact via the energy transformers.

11 144. As a further example, and as seen below, Defendants advertise the Ball-and-
12 Socket design in connection with Bell Spherical Helmets.



21 **Fig. 67.**⁷⁰ Screenshot of Bell Helmet Spherical Technology webpage.

22 145. As a further example, and as seen below, Defendants advertise the Ball-and-
23 Socket design in connection with Giro Spherical Helmets.

26 ⁷⁰ <https://www.bellhelmets.com/technology/spherical.html> (last visited November 26,
27 2024).

1 2 HOW DOES SPHERICAL 3 TECHNOLOGY WORK? 4

5 The unique ball-and-socket design of Spherical Technology utilizes two separate liners to help
6 manage impact forces. The material and density of the inner and outer liners can be optimized with
7 Progressive Layering to help manage a broad range of impact forces. When you combine the
8 benefits of Progressive Layering with the market-leading MIPS® Brain Protection System, designed
9 to help redirect rotational motion away from the brain, you get more comprehensive protection.

10 BALL-AND-SOCKET DESIGN

11 Spherical Technology's Ball-and-Socket design, powered by MIPS®, helps redirect
12 impact forces away from the brain by allowing the outer liner to rotate around the
13 inner liner during a crash. It also eliminates contact with hard plastic or slip-planes
14 against the skin.

15 **Fig. 68.**⁷¹ Excerpts of Giro's Spherical Technology webpage.

16 146. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [1.d]
17 of the '536 Patent.

18 147. Limitation [1.e] requires "a[] third layer connected to the second layer through
19 a second energy transformer." On information and belief, each of the Bell Spherical and
20 Giro Spherical Helmets satisfies limitation [1.e]. For example, the Bell XR Spherical
21 helmet includes a third layer connected to the second layer through a second energy
22 transformer, as depicted in the figure below.

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27 ⁷¹ <https://www.giro.com/technology/spherical.html> (last visited November 26, 2024).

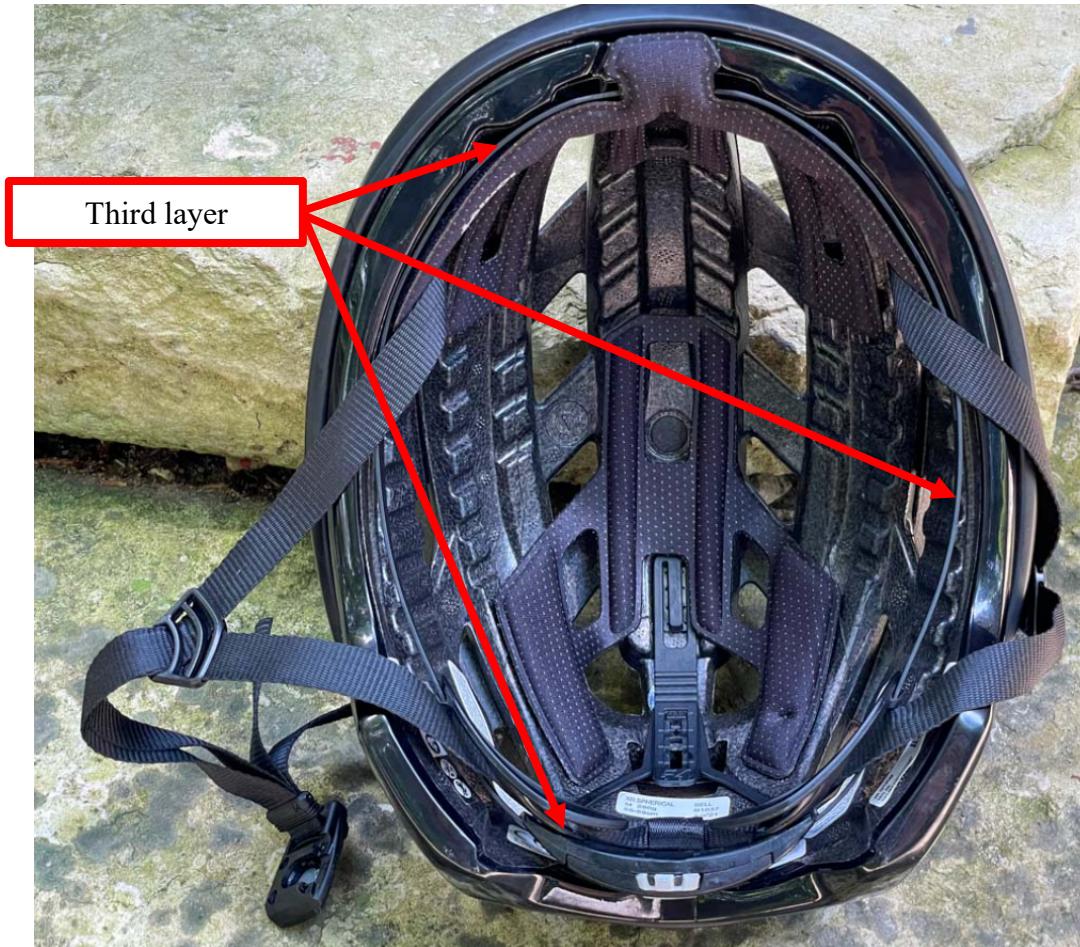


Fig. 69.⁷² Screenshot from the Bike Rumor! review article regarding the Bell XR Spherical helmet.

148. Testing of the Bell XR Spherical helmet confirmed the presence of a third layer connected to the second layer through a second energy transformer, as seen in the figures below.

⁷² <https://bikerumor.com/review-bell-xr-spherical-gravel-adventure-helmet/> (last visited November 26, 2024).



Fig. 70. Photos of the Bell XR Spherical helmet. The bottom photo depicts the third layer disconnected from the second layer to show the connection mechanism.

149. As a further example, the Giro Aries Spherical helmet includes a third layer connected to the second layer through a second energy transformer, as depicted in the figure below.

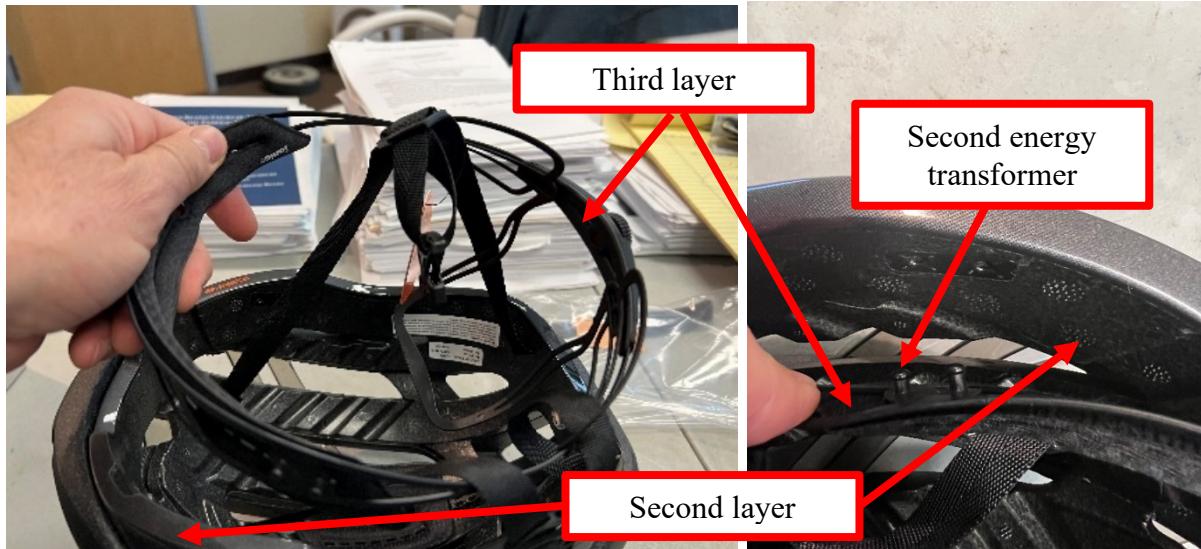


Fig. 71. Photos of the Giro Aries Spherical helmet showing the third layer (disconnected from second layer for illustration) (at left) and a close-up of the disconnected third and second layers (at right) to show the connection mechanism (the second energy transformer).

150. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [1.e] of the '536 Patent.

151. Limitation [1.f] requires “the second energy transformer including a second absorptive/dissipative material.” On information and belief, each of the Bell Spherical and Giro Spherical Helmets satisfies limitation [1.f]. For example, based on information and belief and as depicted in the figure below, the Bell XR Spherical helmet incorporates second energy transformers that includes both absorptive/dissipative material in the second layer (e.g., the gray compressible material) to which the third shell layer is attached, as well as absorptive/dissipative material in the flexible attachment between the second and third layers.



Fig. 72. Photo of the Bell XR Spherical helmet's second and third layers shown disconnected from one another to illustrate the connection mechanism.

152. As a further example, the Giro Aries Spherical helmet includes a second
16 energy transformer that includes at least the flexible attachment between the second and
17 third layers, as depicted in the figure below.



Fig. 73. Close-up photo of Giro Aries Spherical showing the disconnected second and third layers to illustrate the connection mechanism.

153. On further information and belief, and as depicted in the figure below, the second energy transformer also includes at least the compressible material in the second layer to which the third layer is attached.



Fig. 74. Photo of cross-section of the Giro Aries Spherical helmet. Note the compressible material comprising the second layer.

154. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [1.f] of the '536 Patent.

1 155. Limitation [1.g] requires “the second energy transformer operable to absorb
2 energy from forces imparted onto the second layer through the first layer and the first
3 energy transformer.” On information and belief, each of the Bell Spherical and Giro
4 Spherical Helmets satisfies limitation [1.g].

5 156. For example, based on information and belief and as depicted in the figure
6 below, the Bell XR Spherical helmet is advertised by Defendants to “help[] redirect impact
7 forces away from the brain by allowing the outer liner to rotate around the inner liner during
8 a crash.”⁷³ Further, Defendants advertise that “[t]he Ball-and-Socket design powered by
9 MIPS can help redirect impact forces away from the brain by allowing the outer liner to
10 rotates around the inner liner during a crash.”⁷⁴ On information and belief, the second
11 energy transformers of the Bell XR Spherical helmet will deform to absorb energy from
12 forces imparted on the second layer through the first layer and first energy transformer. On
13 further information and belief, the third layer will slide relative to the second shell layer
14 due to the deformation of the second energy transformers layer on impact.

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24 ⁷³ See, e.g., <https://www.bellhelmets.com/technology/spherical.html> (last visited
25 November 26, 2024).

26 ⁷⁴ See, e.g., <https://www.bellhelmets.com/technology/spherical.html> (last visited
27 November 26, 2024); see also <https://www.youtube.com/watch?v=Vg0arb4PGt0>, at 0:45-
1:03 (last visited November 26, 2024).



Fig. 75. Photo of the Bell XR Spherical second and third shells shown disconnected from one another to illustrate the connection mechanism (the second energy transformer).

157. As a further example, and based on information and belief, the Giro Aries Spherical helmet includes a second energy transformer that allows the second layer to slide relative to the third layer. On information and belief, the second energy transformer of the Giro Aries Spherical helmet will deform to absorb energy from forces imparted on the second layer through the first layer and first energy transformer. On information and belief, the third layer will slide relative to the second layer due to the deformation of the second energy transformer on impact.



Fig. 76. Close-up photo of Giro Aries Spherical showing the disconnected second and third layers to illustrate the connection mechanism (the second energy transformer).

158. As a further example, Defendants advertise that Giro Spherical Helmets incorporate “Ball-and-Socket design, powered by MIPS®, [which] helps redirect impact forces away from the brain by allowing the outer liner to rotate around the inner liner during a crash. It also eliminates contact with hard plastic or slip-planes against the skin.”⁷⁵

159. Thus, the Bell Spherical and Giro Spherical Helmets satisfy limitation [1.g] of the '536 Patent.

160. Therefore, each of the Bell Spherical and Giro Spherical Helmets satisfies each and every limitation of claim 1 of the '536 Patent, and therefore infringes at least claim 1 of the '536 Patent.

161. At least as of the date of filing of the instant suit, Defendants have had knowledge of their infringement of the '536 Patent. Accordingly, and to the extent that Defendants continue to make, use, sell, offer to sell, and/or import any of the Bell Spherical or Giro Spherical Helmets, Defendants' infringement of the '536 Patent in violation of 35 U.S.C. §§ 271 et seq. as detailed above, following the filing of the instant suit, is and continues to be willful.

27 ⁷⁵ <https://www.giro.com/technology/spherical.html> (last visited November 26, 2024).

1 162. As a result of Defendants' infringement of the '536 Patent, BrainGuard has
2 suffered and continues to suffer substantial injury and is entitled to recover all damages
3 caused by Defendants' infringement to the fullest extent permitted by the Patent Act,
4 together with prejudgment interest and costs for Defendants' wrongful conduct.

5 **FOURTH CAUSE OF ACTION**
6 **(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE**
7 **'635 PATENT BY DEFENDANTS)**

8 163. BrainGuard re-alleges and incorporates by reference all of the foregoing
9 paragraphs.

10 164. On information and belief, Defendants have directly infringed and continue
11 to directly infringe either literally or under the doctrine of equivalents, one or more claims,
12 including at least claim 9 of the '635 Patent in violation of 35 U.S.C. § 271, et seq., by
13 making, using, offering to sell, selling, and/or importing at least the Bell MIPS and Giro
14 MIPS Helmets.

15 165. Claim 9 of the '635 Patent provides:

16 [9.preamble] Protective gear comprising:

17 [9.a] an outer shell layer;

18 [9.b] an inner conforming layer connected to the outer shell layer through a
19 shear mechanism allowing the outer shell layer to slide relative to the inner
20 conforming layer,

21 [9.c] wherein the shear mechanism includes a first energy transformer
22 having a first absorptive/dissipative material,

23 [9.d] the inner conforming layer configured to conform to a human head;

24 [9.e] a chin strap attached to the inner conforming layer to maintain the
25 position of the inner conforming layer on the human head during rotational
26 force impact while the outer shell layer is allowed to slide.

1 166. On information and belief, Defendants design, make, offer for sale, sell,
2 and/or import Bell MIPS and Giro MIPS Helmets that meet each and every limitation of at
3 least claim 9 of the '635 Patent as stated below.

4 167. On information and belief, and based on publicly available information, all
5 Bell MIPS Helmets have the same or similar technology regarding the below-identified
6 features. On further information and belief, and based on publicly available information,
7 the Bell Stratus MIPS helmet is representative of the Bell MIPS Helmets. On further
8 information and belief, and based on publicly available information, each of the Bell MIPS
9 Helmets functions and is structured in a manner similar, if not identical, to the Bell Stratus
10 MIPS helmet as it relates to infringing the '635 Patent. And on further information and
11 belief, and based on publicly available information, each of the Bell MIPS Helmets
12 possesses features and/or attributes similar, if not identical, to those features and/or
13 attributes of the Bell Stratus MIPS helmet identified by BrainGuard as infringing the '635
14 Patent. Accordingly, the analysis of the Bell Stratus MIPS helmet that follows applies
15 equally to each of the accused Bell MIPS Helmets.

16 168. On information and belief, and based on publicly available information, all
17 Giro MIPS Helmets have the same or similar technology regarding the below-identified
18 features. On further information and belief, and based on publicly available information,
19 the Giro Syntax Mips helmet is representative of the Giro MIPS Helmets. On further
20 information and belief, and based on publicly available information, each of the Giro MIPS
21 Helmets functions and is structured in a manner similar, if not identical, to the Giro Syntax
22 Mips helmet as it relates to infringing the '635 Patent. And on further information and
23 belief, and based on publicly available information, each of the Giro MIPS Helmets
24 possesses features and/or attributes similar, if not identical, to those features and/or
25 attributes of the Giro Syntax Mips helmet identified by BrainGuard as infringing the '635
26 Patent. Accordingly, the analysis of the Giro Syntax Mips helmet that follows applies
27 equally to each of the accused Giro MIPS Helmets.

1 169. The preamble of claim 9 requires: “[p]rotective gear.” To the extent possible
2 that the preamble of claim 9 of the ’635 Patent is determined to be limiting, the Bell MIPS
3 and Giro MIPS Helmets satisfy the preamble, as such helmets are protective gear.

4 170. Limitation [9.a] requires “an outer shell layer.” On information and belief,
5 each of the Bell MIPS and Giro MIPS Helmets satisfies limitation [9.a]. For example, based
6 on information and belief and as depicted in the figures below, the Bell Stratus MIPS and
7 Giro Syntax Mips helmets include a first shell layer.



19 **Fig. 77.⁷⁶** Photo of the Bell Stratus MIPS helmet.
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27 ⁷⁶ See also <https://www.bellhelmets.com/bike/p/stratus-mips-road-bike-helmet/100000000300000063.html> (last visited November 26, 2024).



Fig. 78.⁷⁷ Photo of the Giro Syntax MIPS helmet.

171. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [9.a] of the '635 Patent.

172. Limitation [9.b] requires “an inner conforming layer connected to the outer shell layer through a shear mechanism allowing the outer shell layer to slide relative to the inner conforming layer.” On information and belief, each of the Bell MIPS and Giro MIPS Helmets satisfies limitation [9.b]. For example, based on information and belief and as depicted in the figures below, the Bell Stratus MIPS helmet includes an inner conforming layer.

⁷⁷ See also <https://www.giro.com/p/syntax-mips-road-bike-helmet/GR-7159866.html> (last visited November 26, 2024).



Fig. 79. Photos of the Bell Stratus MIPS helmet with outer shell, inner conforming layer, and shear mechanism labeled.

173. On information and belief, Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) equipped with MIPS Evolve technology have shear mechanisms (seen above as yellow elastic elements disposed between the outer shell layer and inner conforming layers) that connect the outer shell and inner conforming layers.

174. As a further example, and as seen in the figure below, Bell MIPS Helmets equipped with MIPS Evolve technology use “slip plane technology... designed to reduce

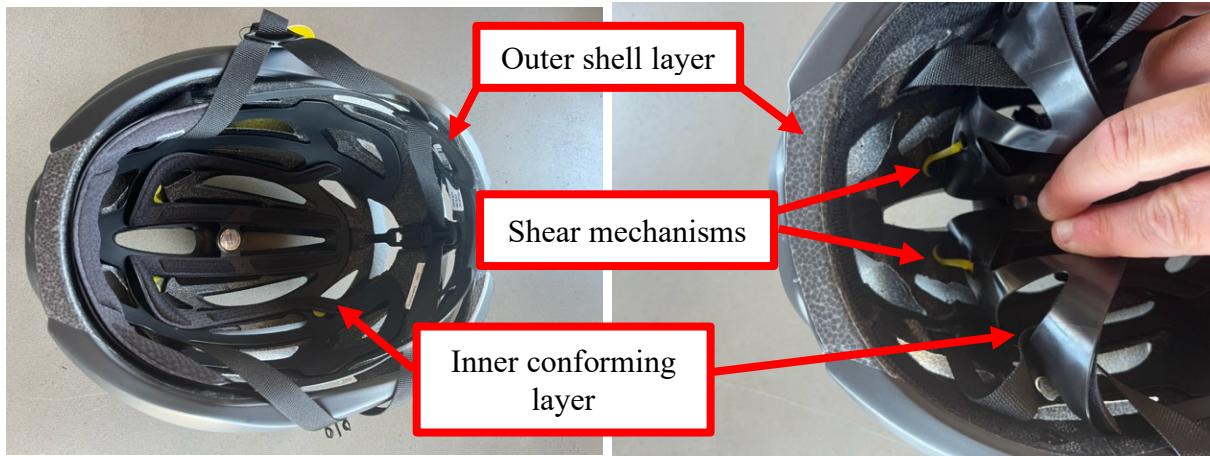
1 rotational forces that can result from certain impacts" and which technology allows the
2 outer shell layer to slide relative to the inner conforming layer.



10 **Fig. 80.**⁷⁸ Photo of MIPS Evolve informational tag attached to a Bell Stratus MIPS helmet.
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12 175. As a further example, on information and belief, and as seen in the figure
13 below, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet)
14 includes an inner conforming layer connected to the outer shell layer through a shear
15 mechanism. On information and belief, each of the Giro MIPS Helmets includes shear
16 mechanisms (seen below as yellow elastic elements) that connect the outer shell and inner
17 conforming layers. On information and belief, there are four such shear mechanisms
18 present in each Giro MIPS helmet.
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27 ⁷⁸ See also <https://www.bellhelmets.com/technology/mips.html> (last visited November 26, 2024).

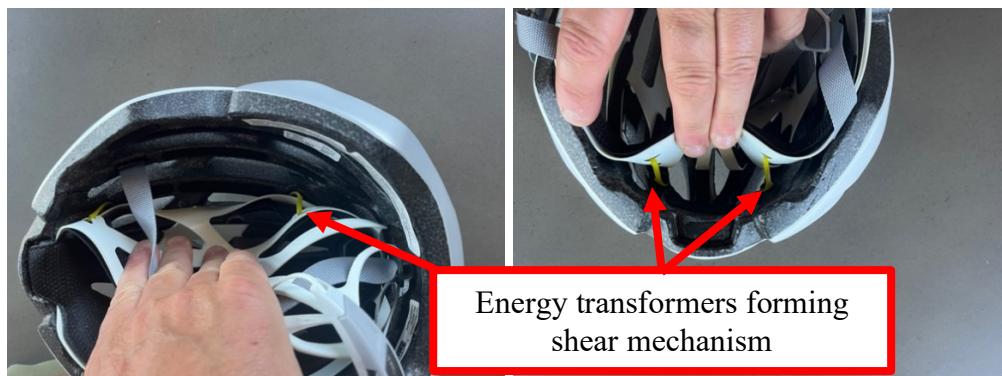


8 **Fig. 81.** Photos of the Giro Syntax MIPS helmet with outer shell layer, inner conforming
9 layer, and shear mechanisms labeled. Note the yellow elastic elements comprising the shear
mechanisms.

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11 176. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [9.b] of the
12 '635 Patent.

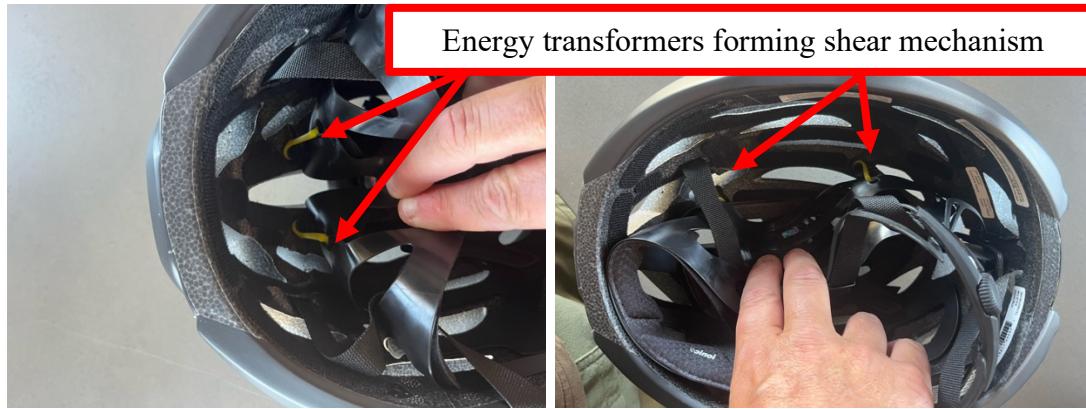
13 177. Limitation [9.c] requires "wherein the shear mechanism includes a first energy
14 transformer having a first absorptive/dissipative material." On information and belief, each
15 of the Bell MIPS and Giro MIPS Helmets satisfies limitation [9.c].

16 178. For example, based on information and belief and as depicted in the figures
17 below, the Bell Stratus MIPS helmet includes a shear mechanism with four energy
18 transformers comprised of absorptive/dissipative material (see yellow elastic elements).



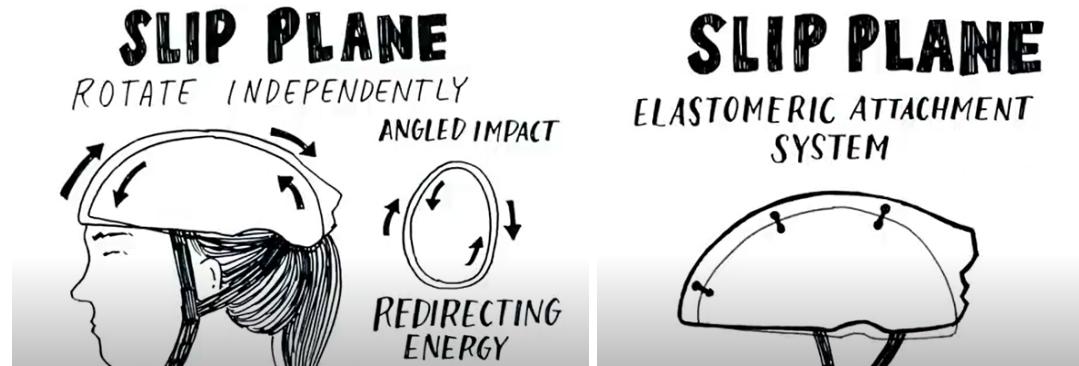
25 **Fig. 82.** Photos of the Bell Stratus MIPS helmet with the energy transformers forming the
26 shear mechanism labeled.

1 179. As a further example, based on information and belief and as depicted in the
2 figures below, the Giro Syntax Mips helmet includes a shear mechanism with four energy
3 transformers comprised of absorptive/dissipative material (see yellow elastic elements).



10 **Fig. 83.** Photos of the Giro Syntax Mips helmet with the energy transformers forming the
11 shear mechanism labeled.

12 180. As a further example, on information and belief, and as seen in the figure
13 below, Defendants advertise “slip plane” technology to highlight the dangers of certain
14 types of impacts and the ability of Giro MIPS Helmets to mitigate such dangers by
15 “reducing the amount of rotational force that may otherwise be transferred to your brain”
16 during impact.⁷⁹



23 **Fig. 84.**⁸⁰ Screenshots from a Giro Sport Design video.

24 ⁷⁹ See, e.g., Giro Sport Design, “Mechanics of a Crash,”

25 <https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024).

26 ⁸⁰ Giro Sport Design, “Mechanics of a Crash” at 1:06 and 2:03,

27 <https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024)

(“An elastomeric attachment system stretches on impact allowing the helmet liner to

1 181. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [9.c] of the
2 '635 Patent.

3 182. Limitation [9.d] requires "the inner conforming layer configured to conform
4 to a human head." On information and belief, each of the Bell MIPS and Giro MIPS
5 Helmets satisfies limitation [9.d].

6 183. For example, on information and belief, and as seen in the figure below, each
7 of the Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) includes an
8 inner conforming layer configured to conform to a human head when worn.



20 **Fig. 85.** Photo of a Bell Stratus MIPS helmet.

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22 184. As a further example, on information and belief, and as seen in the figure
23 below, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet)
24 includes an inner conforming layer configured to conform to a human head when worn.

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26 move. How much does it move? Just a couple millimeters. But those few millimeters of
27 rotation during that crucial two milliseconds can reduce the amount of rotational force
that may otherwise be transferred to your brain.").



Fig. 86. Photo of a Giro Syntax MIPS helmet.

13 185. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [9.d] of the
14 '635 Patent.

15 186. Limitation [9.e] requires "a chin strap attached to the inner conforming layer
16 to maintain the position of the inner conforming layer on the human head during rotational
17 force impact while the outer shell is allowed to slide." On information and belief, each of
18 the Bell MIPS and Giro MIPS Helmets satisfies limitation [9.e].

19 187. For example, on information and belief, and as seen in the figure below, each
20 of the Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) include a chin
21 strap attached to the inner conforming layer to maintain the position of that layer during
22 impacts while allowing the outer shell to slide relative to the inner layer.



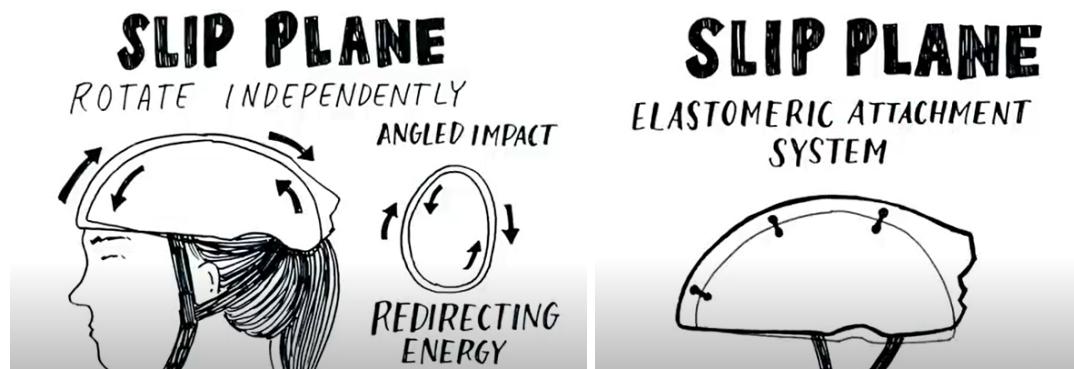
Fig. 87. Photos of a Bell Stratus MIPS helmet.

188. As a further example, on information and belief, and as seen in the figure below, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet) includes a chin strap attached to the inner conforming layer. The chin strap maintains the position of the inner conforming layer on the human head while allowing a rotational force to slide the outer shell about the inner conforming layer.



Fig. 88. Photo of a Giro Syntax Mips helmet.

1 189. As a further example, on information and belief, and as seen in the figure
2 below, Defendants advertise “slip plane” technology to highlight the dangers of certain
3 types of impacts and the ability of Giro MIPS Helmets to mitigate such dangers by
4 “reducing the amount of rotational force that may otherwise be transferred to your brain”
5 during impact.⁸¹



12 **Fig. 89.**⁸² Screenshots from a Giro Sport Design video.

13 190. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [9.e] of the
14 '635 Patent.

15 191. Therefore, each of the Bell MIPS and Giro MIPS Helmets satisfies each and
16 every limitation of claim 9 of the '636 Patent, and therefore infringes at least claim 9 of the
17 '635 Patent.

18 192. At least as of the date of filing of the instant suit, Defendants have had
19 knowledge of their infringement of the '635 Patent. Accordingly, and to the extent that
20 Defendants continue to make, use, sell, offer to sell, and/or import any of the Bell MIPS or

22 ⁸¹ See, e.g., Giro Sport Design, “Mechanics of a Crash,”
23 <https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024).

24 ⁸² Giro Sport Design, “Mechanics of a Crash” at 1:06 and 2:03,
25 <https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024)
26 (“An elastomeric attachment system stretches on impact allowing the helmet liner to
27 move. How much does it move? Just a couple millimeters. But those few millimeters of
rotation during that crucial two milliseconds can reduce the amount of rotational force
that may otherwise be transferred to your brain.”).

1 Giro MIPS Helmets, Defendants' infringement of the '635 Patent in violation of 35 U.S.C.
2 §§ 271 et seq. as detailed above, following the filing of the instant suit, is and continues to
3 be willful.

4 193. As a result of Defendants' infringement of the '635 Patent, BrainGuard has
5 suffered and continues to suffer substantial injury and is entitled to recover all damages
6 caused by Defendants' infringement to the fullest extent permitted by the Patent Act,
7 together with prejudgment interest and costs for Defendants' wrongful conduct.

8 **FIFTH CAUSE OF ACTION**
9 **(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE**
10 **'909 PATENT BY DEFENDANTS)**

11 194. BrainGuard re-alleges and incorporates by reference all of the foregoing
12 paragraphs.

13 195. On information and belief, Defendants have directly infringed and continue
14 to directly infringe either literally or under the doctrine of equivalents, one or more claims,
15 including at least claim 1 of the '909 Patent in violation of 35 U.S.C. § 271, et seq., by
16 making, using, offering to sell, selling, and/or importing at least the Bell MIPS and Giro
17 MIPS Helmets.

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196. Claim 1 of the '909 Patent provides:

2 [1.preamble] A helmet comprising:

3 [1.a] an outer protective shell;

5 [1.b] an inner protective shell;

6 [1.c] a first energy transformer layer associated with a shear mechanism, the
7 first energy transformer layer residing between the outer protective shell and
8 the inner protective shell, wherein the shear mechanism allows the outer
protective shell to slide relative to the inner protective shell;

9 [1.d] a liner layer connected to the inner protective shell, the liner layer
10 configured to reside between the inner protective shell and a human head;

11 [1.e] a chin strap attached to the inner protective shell, the chin strap and the
12 liner layer configured to secure the inner protective shell to the human head
13 while the outer protective shell is allowed to slide relative to the inner
protective shell.

197. On information and belief, Defendants design, make, offer for sale, sell,
and/or import Bell MIPS and Giro MIPS Helmets that meet each and every limitation of at
least claim 1 of the '909 Patent as stated below.

198. On information and belief, and based on publicly available information, all
Bell MIPS Helmets have the same or similar technology regarding the below-identified
features. On further information and belief, and based on publicly available information,
the Bell Stratus MIPS helmet is representative of the Bell MIPS Helmets. On further
information and belief, and based on publicly available information, each of the Bell MIPS
Helmets functions and is structured in a manner similar, if not identical, to the Bell Stratus
MIPS helmet as it relates to infringing the '909 Patent. And on further information and
belief, and based on publicly available information, each of the Bell MIPS Helmets
possesses features and/or attributes similar, if not identical, to those features and/or

1 attributes of the Bell Stratus MIPS helmet identified by BrainGuard as infringing the '909
2 Patent. Accordingly, the analysis of the Bell Stratus MIPS helmet that follows applies
3 equally to each of the accused Bell MIPS Helmets.

4 199. On information and belief, and based on publicly available information, all
5 Giro MIPS Helmets have the same or similar technology regarding the below-identified
6 features. On further information and belief, and based on publicly available information,
7 the Giro Syntax Mips helmet is representative of the Giro MIPS Helmets. On further
8 information and belief, and based on publicly available information, each of the Giro MIPS
9 Helmets functions and is structured in a manner similar, if not identical, to the Giro Syntax
10 Mips helmet as it relates to infringing the '909 Patent. And on further information and
11 belief, and based on publicly available information, each of the Giro MIPS Helmets
12 possesses features and/or attributes similar, if not identical, to those features and/or
13 attributes of the Giro Syntax Mips helmet identified by BrainGuard as infringing the '909
14 Patent. Accordingly, the analysis of the Giro Syntax Mips helmet that follows applies
15 equally to each of the accused Giro MIPS Helmets.

16 200. The preamble of claim 1 requires: “[a] helmet.” To the extent possible that the
17 preamble of claim 1 of the '909 Patent is determined to be limiting (and as discussed
18 elsewhere herein), the Bell MIPS and Giro MIPS Helmets satisfy the preamble.

19 201. Limitation [1.a] requires “an outer protective shell.” On information and
20 belief, each of the Bell MIPS and Giro MIPS Helmets satisfies limitation [1.a]. For
21 example, based on information and belief and as depicted in the figures below, the Bell
22 Stratus MIPS and Giro Syntax Mips helmets each include an outer protective shell.

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Fig. 90.⁸³ Photo of the Bell Stratus MIPS helmet.



Fig. 91.⁸⁴ Photo of the Giro Syntax Mips helmet.

⁸³ See also <https://www.bellhelmets.com/bike/p/stratus-mips-road-bike-helmet/100000000300000063.html> (last visited November 26, 2024).

⁸⁴ See also <https://www.giro.com/p/syntax-mips-road-bike-helmet/GR-7159866.html> (last visited November 26, 2024).

1 202. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [1.a] of the
2 '909 Patent.

3 203. Limitation [9.b] requires “an inner protective shell.” On information and
4 belief, each of the Bell MIPS and Giro MIPS Helmets satisfies limitation [1.b]. For
5 example, based on information and belief and as depicted in the figures below, the Bell
6 Stratus MIPS and Giro Syntax Mips helmets each include an inner protective shell.



18 **Fig. 92.** Photo of a Bell Stratus MIPS helmet.
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Fig. 93. Photo of a Giro Syntax MIPS helmet.

204. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [1.b] of the '909 Patent.

205. Limitation [1.c] requires “a first energy transformer layer associated with a shear mechanism, the first energy transformer layer residing between the outer protective shell and the inner protective shell, wherein the shear mechanism allows the outer protective shell to slide relative to the inner protective shell.” On information and belief, each of the Bell MIPS and Giro MIPS Helmets satisfies limitation [1.c].

206. For example, based on information and belief and as depicted in the figures below, the Bell Stratus MIPS helmet includes a shear mechanism with four energy transformers (which make up the required first energy transformer layer) comprised of elastomeric elements disposed between and connecting the outer protective shell and the inner protective shell. On further information and belief, the energy transformers allow the outer and inner protective shells to slide relative to one another during impacts.

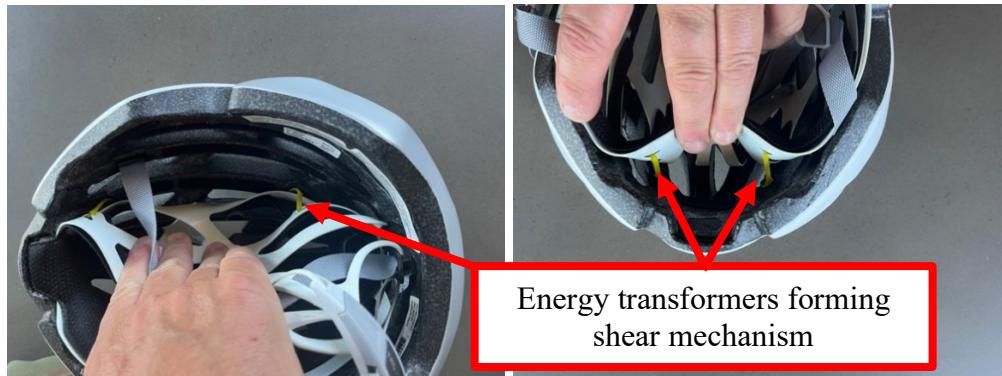


Fig. 94. Photos of the Bell Stratus MIPS helmet with the energy transformers forming the shear mechanism labeled. Note the placement of the energy transformers between the outer and inner protective shells.

207. As a further example, and as seen in the figure below, Bell MIPS Helmets equipped with MIPS Evolve technology use “slip plane technology... designed to reduce rotational forces that can result from certain impacts” and which technology allows the outer protective shell to slide relative to the inner protective shell.

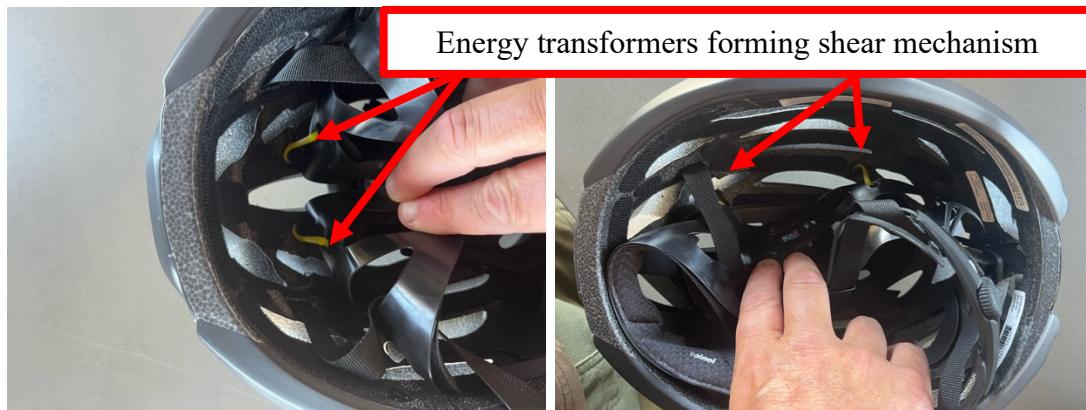


Fig. 95.⁸⁵ Photo of MIPS Evolve informational tag attached to a Bell Stratus MIPS helmet.

208. As a further example, based on information and belief and as depicted in the figures below, the Giro Syntax Mips helmet includes a shear mechanism with four energy

⁸⁵ See also <https://www.bellhelmets.com/technology/mips.html> (last visited November 26, 2024).

1 transformers (which make up the required first energy transformer layer) comprised of
2 elastomeric elements disposed between and connecting the outer protective shell and the
3 inner protective shell. On further information and belief, the energy transformers allow the
4 outer and inner protective shells to slide relative to one another during impacts.



12 **Fig. 96.** Photos of the Giro Syntax Mips helmet with the energy transformers forming the
shear mechanism labeled.

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14 209. As a further example, on information and belief, and as seen in the figure
15 below, Defendants advertise “slip plane” technology to highlight the dangers of certain
16 types of impacts and the ability of Giro MIPS Helmets to mitigate such dangers by
17 “reducing the amount of rotational force that may otherwise be transferred to your brain”
18 during impact.⁸⁶

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27 ⁸⁶ See, e.g., Giro Sport Design, “Mechanics of a Crash,”
<https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024).

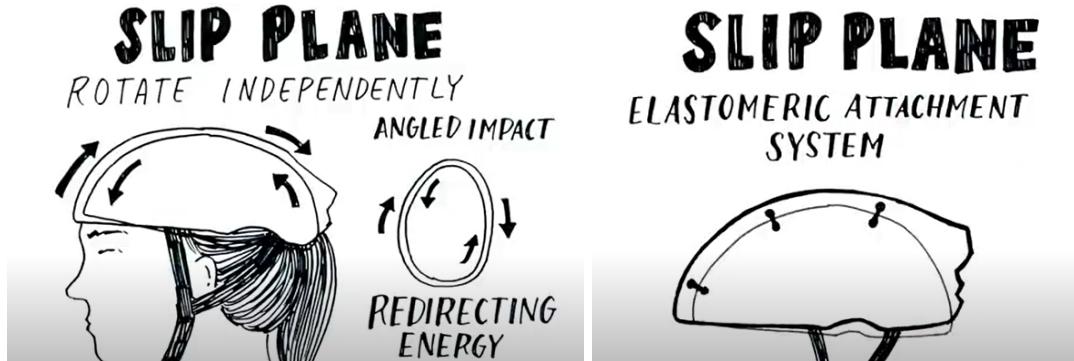


Fig. 97.⁸⁷ Screenshots from a Giro Sport Design video.

210. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [1.c] of the '909 Patent.

211. Limitation [1.d] requires “a liner layer connected to the inner protective shell, the liner layer configured to reside between the inner protective shell and a human head.” On information and belief, each of the Bell MIPS and Giro MIPS Helmets satisfies limitation [1.d].

212. For example, on information and belief, and as seen in the figure below, each of the Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) includes a liner layer connected to the inner protective shell which is configured to reside between the inner protective shell and a human head when worn.

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24 ⁸⁷ Giro Sport Design, “Mechanics of a Crash” at 1:06 and 2:03,
25 <https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024)
26 (“An elastomeric attachment system stretches on impact allowing the helmet liner to move. How much does it move? Just a couple millimeters. But those few millimeters of rotation during that crucial two milliseconds can reduce the amount of rotational force that may otherwise be transferred to your brain.”).
27



Fig. 98. Photo of a Bell Stratus MIPS helmet.

213. As a further example, on information and belief, and as seen in the figure below, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet) includes an inner conforming layer configured to conform to a human head when worn.

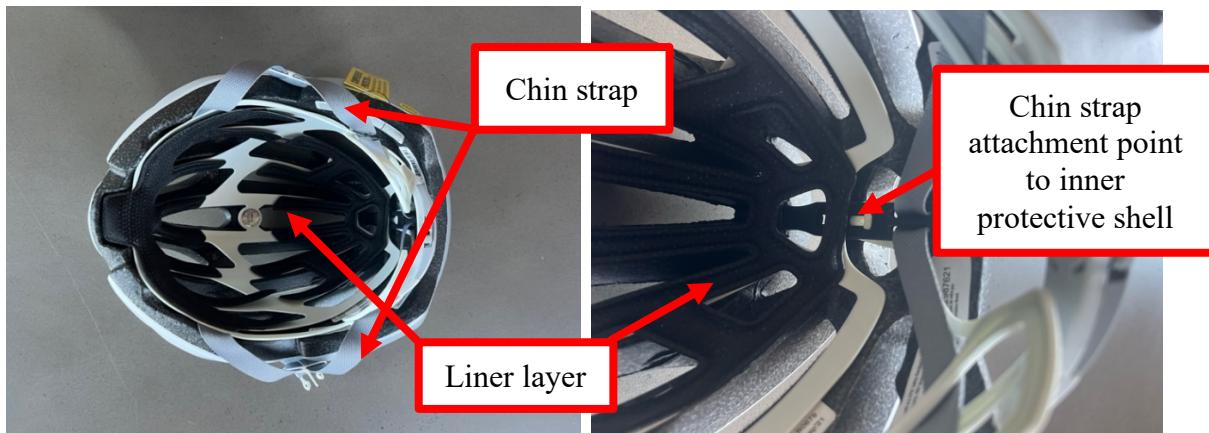


Fig. 99. Photo of a Giro Syntax Mips helmet.

1 214. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [1.d] of the
2 '909 Patent.

3 215. Limitation [1.e] requires “a chin strap attached to the inner protective shell,
4 the chin strap and the liner layer configured to secure the inner protective shell to the human
5 head while the outer protective shell is allowed to slide relative to the inner protective
6 shell.” On information and belief, each of the Bell MIPS and Giro MIPS Helmets satisfies
7 limitation [1.e].

8 216. For example, on information and belief, and as seen in the figures below, each
9 of the Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) includes a chin
10 strap attached to the inner protective shell. On further information and belief, each of the
11 Bell MIPS Helmets (as exemplified by the Bell Stratus MIPS helmet) uses the chin strap
12 and the liner layer to secure a human head to the inner protective shell while allowing the
13 outer protective shell to slide relative to the inner protective shell.



21 **Fig. 100.** Photos of a Bell Stratus MIPS helmet.



Fig. 101.⁸⁸ Screenshot depicting user wearing a Bell Stratus MIPS helmet with chin strap engaged.

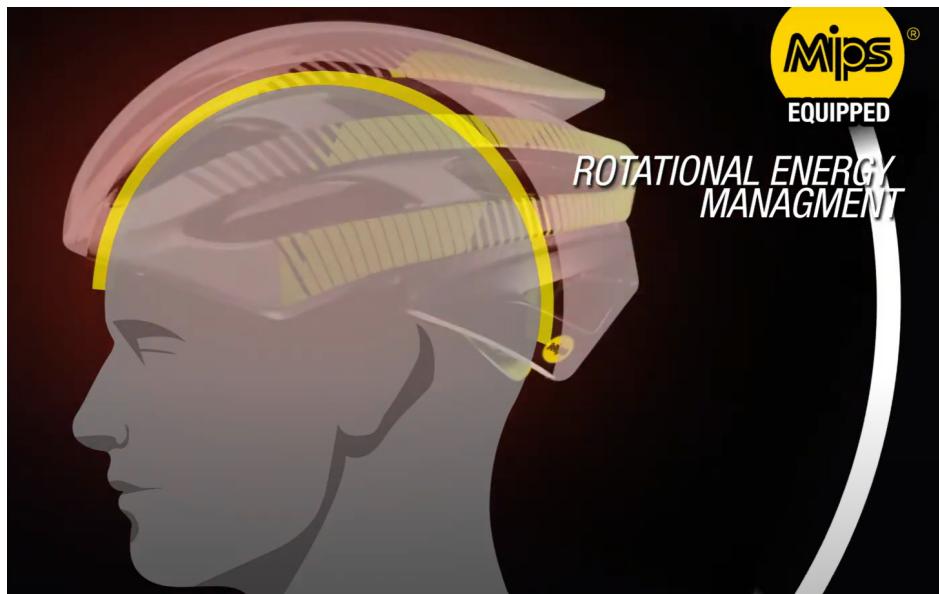
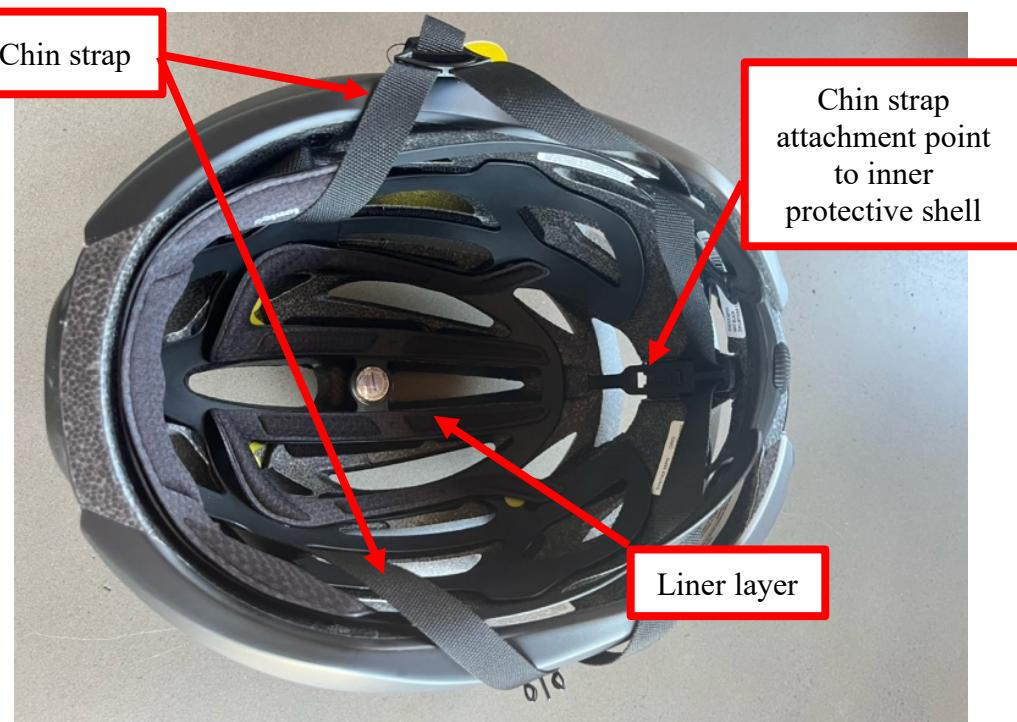


Fig. 102.⁸⁹ Screenshot of video available on the Bell Stratus MIPS product page depicting the sliding action between the inner and outer protective shells.

⁸⁸ <https://www.bellhelmets.com/bike/p/stratus-mips-road-bike-helmet/100000000300000063.html> (last visited November 26, 2024).

⁸⁹ <https://www.bellhelmets.com/bike/p/stratus-mips-road-bike-helmet/100000000300000063.html> (last visited November 26, 2024); *see also*

1 217. As a further example, on information and belief, and as seen in the figures
2 below, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet)
3 includes a chin strap attached to the inner protective shell. On further information and
4 belief, each of the Giro MIPS Helmets (as exemplified by the Giro Syntax Mips helmet)
5 uses the chin strap and the liner layer to secure a human head to the inner protective shell
6 while allowing the outer protective shell to slide relative to the inner protective shell.



19 **Fig. 103.** Photo of a Giro Syntax Mips helmet.
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27 <https://www.youtube.com/watch?v=DwtKFSIQ2uQ&t=36s> (last visited November 26,
28 2024).



Fig. 104.⁹⁰ Screenshot depicting user wearing a Giro Syntax MIPS helmet with chin strap engaged.

218. As a further example, on information and belief, and as seen in the figure below, Defendants advertise “slip plane” technology to highlight the dangers of certain types of impacts and the ability of Giro MIPS Helmets to mitigate such dangers by “reducing the amount of rotational force that may otherwise be transferred to your brain” during impact.⁹¹

⁹⁰ <https://www.giro.com/p/syntax-mips-road-bike-helmet/100000000300000101.html> (last visited November 26, 2024).

⁹¹ See, e.g., Giro Sport Design, “Mechanics of a Crash,” <https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024).

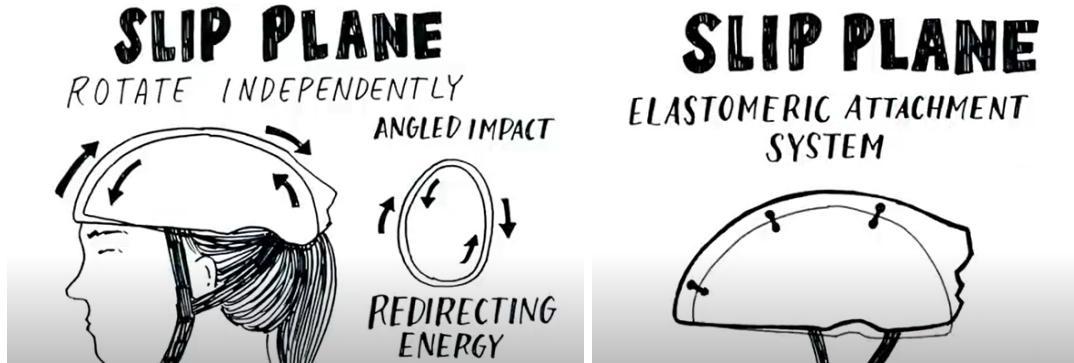


Fig. 105.⁹² Screenshots from a Giro Sport Design video.

219. Thus, the Bell MIPS and Giro MIPS Helmets satisfy limitation [1.e] of the '909 Patent.

220. Therefore, each of the Bell MIPS and Giro MIPS Helmets satisfies each and every limitation of claim 1 of the '909 Patent, and therefore infringes at least claim 1 of the '909 Patent.

221. At least as of the date of filing of the instant suit, Defendants have had knowledge of their infringement of the '909 Patent. Accordingly, and to the extent that Defendants continue to make, use, sell, offer to sell, and/or import any of the Bell MIPS or Giro MIPS Helmets, Defendants' infringement of the '909 Patent in violation of 35 U.S.C. §§ 271 et seq. as detailed above, following the filing of the instant suit, is and continues to be willful.

222. As a result of Defendants' infringement of the '909 Patent, BrainGuard has suffered and continues to suffer substantial injury and is entitled to recover all damages caused by Defendants' infringement to the fullest extent permitted by the Patent Act, together with prejudgment interest and costs for Defendants' wrongful conduct.

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24 ⁹² Giro Sport Design, "Mechanics of a Crash" at 1:06 and 2:03,
25 <https://www.youtube.com/watch?v=kQ9jRxOp1S0> (last visited November 26, 2024)
26 ("An elastomeric attachment system stretches on impact allowing the helmet liner to move. How much does it move? Just a couple millimeters. But those few millimeters of rotation during that crucial two milliseconds can reduce the amount of rotational force that may otherwise be transferred to your brain.").
27

PRAYER FOR RELIEF

223. WHEREFORE, BrainGuard respectfully requests judgment against Defendants, and that the Court adjudge that:

224. Defendants infringe, and are therefore jointly and severally liable for infringing, the '319 Patent, the '561 Patent, the '536 Patent, the '635 Patent, and the '909 Patent;

225. Defendants willfully infringe the '319 Patent, the '561 Patent, the '536 Patent, the '635 Patent, and the '909 Patent;

226. BrainGuard is entitled to and shall be awarded damages by this Court under 35 U.S.C. § 284 sufficient to compensate for Defendants' infringement, including but not limited to infringement occurring before the filing of this lawsuit;

227. BrainGuard is entitled to and shall be awarded by this Court any post-judgment ongoing royalties under 35 U.S.C. § 284 as may be appropriate;

228. BrainGuard is entitled to and shall be awarded by this Court any applicable pre-judgment and post-judgment interest; and

229. this Court award BrainGuard such other relief at law or in equity as the Court
deems just and proper.

JURY DEMAND

230. BrainGuard requests that all claims and causes of action raised in this Complaint against Defendants be tried to a jury to the fullest extent possible.

Date: December 6, 2024

Respectfully Submitted,

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